IMO_GDE_0003

GUIDE

Power to Ontario.
On Demand.

Energy Market Graphical User Interface User's Guide

Issue 16.0

This document provides user information and tutorials for the Energy Market GUI (formerly MPI).

Disclaimer

The contents of these materials are prepared in draft form only for discussion and information purposes and are provided "as is" without representation or warranty of any kind. The *IESO* may revise, withdraw or make final these materials at any time at its sole discretion without notice to you. It is solely your responsibility to ensure that you are using up-to-date documents and information.

Document ID	IMO_GDE_0003
Document Name	Energy Market Graphical User Interface User's Guide
Issue	Issue 16.0
Reason for Issue	Revised for addition of submission validation and samples in Appendix
Effective Date	December 4, 2013

Document Change History

Issue	Reason for Issue	Date
1.0	Released for Baseline 6.1	April 2, 2001
1.1	Released for the update to Baseline 7.0	June 26, 2002
2.0	Released for Baseline 8.0	September 25, 2002
2.1	Released for Baseline 9.0	November 28, 2002
3.0	Released for Baseline 9.0	January 15, 2003
4.0	Released for Baseline 9.1	June 4, 2003
5.0	Released for Baseline 10.1	December 10, 2003
6.0	Released for Baseline 12.0	September 1, 2004
7.0	Released for Baseline 13.1	June 1, 2005
8.0	Released for Baseline 15.1	June 1, 2006
9.0	Release for Baseline 17.0	March 7, 2007
10.0	Release for Baseline 18.0	September 12, 2007
11.0	Release for Baseline 18.1	December 12, 2007
12.0	Release for Baseline 19.0	March 05, 2008
13.0	Release for Baseline 20.0	September 10, 2008
14.0	Release for Baseline 26.0	October 12, 2011
15.0	Revised for addition of stronger authentication components, methods and content	March 6, 2013
16.0	Revised for addition of Submission Validation Rules & Samples in Appendix B – contains information from IMO_TPL_0016, IMO_TPL_0028, IMO_TPL_0029, IMO_TPL_0030, which will be obsoleted in future.	December 4, 2013

Related Documents

Document ID	Document Title
MDP_PRO_0027	Market Manual 4: Market Operations, Part 4.2: Submission of Dispatch Data in the Real-Time Energy and Operating Reserve Markets
IMP_PRO_0034	Market Manual 4: Market Operations, Part 4.3: Real-Time Scheduling of the Physical Markets
MDP_PRO_0029	Market Manual 4: Market Operations, Part 4.4: Transmission Rights Auction
MDP_PRO_0033	Market Manual 5: Settlements, Part 5.5: Physical Market Settlement Statements
MDP_PRO_0034	Market Manual 5: Settlements, Part 5.3: Submission of Physical Bilateral Contract Data

MDP_PRO_0046	Market Manual 5: Settlements, Part 5.7: Financial Markets Settlement Statements
IMP_GDE_0088	Market Manual 1: Market Entry, Maintenance & Exit, Part 1.3: Identity Management Operations Guide

Table of Contents

1. Introduction 4
1.1 Purpose 4
1.2 Scope 4
1.3 Who Should Use This Document 4
1.4 Conventions 4
1.5 How This Document is Organized 4
1.6 Associated Documents 5

2. Overview 6
2.1 General 6
2.1.1 Systems 6
2.1.2 Energy Market GUI and Markets 6
2.1.3 Typical uses of the Energy Market GUI 6
2.2 Functions 7
2.2.1 Basic Browser Functions 7
Internet Explorer 7.X 8
2.3 System Information 12
2.3.1 Bidding 16
2.3.2 Types of bids 16
2.3.3 Bid Acknowledgements 17

3. Configuration 18

4. Displays 20
4.1 Login Displays 20
4.1.1 Initial Login to Portal for Access to the Energy Market GUI 20
Use and Presentation of Portal User Account Name and Password 20
4.2 Energy Market GUI Main Display 25
Main Page Description 26
4.3 Market Status Display 27
4.4 System Messages Display 28
4.4.1 DACP Notification Messages 28
4.4.2 Re-activation of Market Status and System Messages Windows 30
4.5 Energy Market GUI Work Space Display 31
Energy Market GUI Workspace Screen Access 32
4.5.1 Energy Market GUI Market Access 32
Energy Market GUI Work Space Sections 33
4.5.2 Action Section 33
4.5.3 Application Section 34

4.5.4 Hour Section 34
4.5.5 Financial Market Section 35
4.5.6 Physical Market Section 35
Common Buttons and Fields 35
Bilateral Market Subtype 37
Schedule Market Subtype 37
RTEM Market Subtype 38
Operating Reserve (OR) Market Subtype 40
Capacity Reserve (CR) Market Subtype 42
Daily Generator Data (DGD) Market Subtype 42
4.6 HTML Bid Submission Forms 43
4.6.1 Introduction 43
Standard Buttons and Fields 43
4.6.2 DAEFM Bid Submission Form 44
4.6.3 Bilateral Contract Data Submission Form 45
4.6.4 Schedule Bid Submission Form 47
4.6.5 RTEM Bid Submission Form 48
4.6.6 Operating Reserve Bid Submission Form 50
4.6.7 Capacity Reserve Bid Submission Form 53
4.6.8 Daily Generator Data (DGD) Submission Form 54
4.7 Report Pages 56
4.7.1 ADHOC Report Tab 56

5. Tutorials 57

5.1 Day Ahead Energy Forward Market (DAEFM) Tutorials 57
5.2 Real Time Energy Market (RTEM) Tutorials 57
5.2.1 Market Overview 57
5.2.2 Functions available to Users 58
5.2.3 Bid/Offer/Schedule Submission Windows 58
5.2.4 Submission of Bids in the RTEM Market 60
5.2.5 Physical Bilateral Contracts (PBC's) Tutorials 60
PBC Submission (HTML) 61
PBC Retrieval/Submission (ASCII) 64
PBC Retrieval (HTML) 68
PBC Cancellation (HTML) 70
PBC Cancellation (ASCII) 72
5.2.6 Schedules Tutorials 73
Schedule Submission (HTML) 73
Schedule Retrieval/Submission (ASCII) 76
Schedule Submission (ASCII) 79
Schedule Retrieval (HTML) 80
Schedule Cancellation (HTML) 83
Schedule Cancellation (ASCII) 83
5.2.7 Energy Tutorials 84
Energy Bid/Offer Submission (HTML) 84
Energy Bid Submission (HTML) 84
Energy Offer Submission (HTML) 88
Energy Bid/Offer Retrieval/Submission (ASCII) 92
Energy Bid Retrieval (HTML) 96

Energy Bid Cancellation (HTML)....99
Energy Bid/Offer Cancellation (ASCII)....99
5.2.8 Operating Reserve (OR) Tutorials....100
OR Bid/Offer Submission (HTML)....100
OR Bid Submission (HTML)....100
OR Offer Submission (HTML)....103
OR Bid/Offer Retrieval/Submission (ASCII)....107
Figure 5-59: OR Bid/Offer Submission (ASCII) Status FileOR Bid Retrieval (HTML)....111
OR Bid Cancellation (HTML)....114
OR Bid/Offer Cancellation (ASCII)....115
5.2.9 Capacity Reserve....116
5.3 Summaries....116
5.4 Standing Bids....118
5.5 Short Notice Submissions....119
5.5.1 Short Notice Office Submission....119
5.5.2 Approval of Short Notice Offer....122
5.5.3 Rejection of Short Notice Offer....123

References....16

List of Figures

Figure 2-1: Standard Internet Explorer 7.X Toolbars Display....8
Figure 2-2: The Internet Explorer 7.X Address Toolbar....9
Figure 2-3: The Internet Explorer 7.X Back and Forward Buttons....9
Figure 2-4: The Internet Explorer 7.X Refresh Button....10
Figure 2-5: Copying the Portal URL to the Internet Explorer 7.X Links Toolbar....10
Figure 2-6: Renaming the Portal URL in the Internet Explorer 7.X Links Toolbar and List....11
Figure 2-7: Market Trading Community Home Page Display....12
Figure 2-8: Energy Market GUI - Market Participant Drop Down Selection List....13
Figure 2-9: Energy Market GUI Initialization....13
Figure 2-10: Energy Market GUI Display....14
Figure 2-11: System Messages Display....14
Figure 2-12: Market Status Display....15
Figure 2-13: Energy Market GUI Workspace Initialization....15
Figure 2-14: Energy Market GUI Work Space....16
Figure 4-1: Portal Welcome Page....20
Figure 4-2: Portal Login Page....21
Figure 5-1: Resource Display (Bilateral Contracts)....62
Figure 5-2: PBC Submission (HTML)....63
Figure 5-3: PBC Submission (HTML) Status Page....64
Figure 5-4: PBC Retrieval/Submission (ASCII)....65
Figure 5-5: Download Request Successful Dialog....66
Figure 5-6: Downloaded PBC File....66
Figure 5-7: PBC Upload File....67
Figure 5-8: PBC Submission (ASCII)....67
Figure 5-9: Upload Request Successful Dialog....68
Figure 5-10: PBC Status File....68
Figure 5-11: PBC Retrieval (HTML)....69
Figure 5-12: Retrieved PBC (HTML)....70
Figure 5-13: Canceling a PBC (HTML)....71
Figure 5-14: PBC Cancellation (HTML) Status Page....72
Figure 5-15: PBC Cancellation File....73
Figure 5-16: Schedule Submission (HTML)....74
Figure 5-17: Resource Display (Schedules)....75
Figure 5-18: Schedule Submission (HTML) Status Page....75
Figure 5-19: Schedule Retrieval/Submission (ASCII)....77
Figure 5-20: Download Request Successful Dialog....77
Figure 5-21: Downloaded Schedule File....78
Figure 5-22: Schedule Upload File....79
Figure 5-23: Schedule Submission (ASCII)....79
Figure 5-24: Upload Request Successful Dialog....80
Figure 5-25: Schedule Status File....80
Figure 5-26: Schedule Retrieval (HTML)....81
Figure 5-27: Sample Retrieved Schedule (HTML)....82
Figure 5-28: Schedule Cancellation (HTML) Status Page....83

Figure 5-29: Schedule Cancellation File 84
Figure 5-30: Resource Display (RTEM) 86
Figure 5-31: Energy Bid Submission (HTML) 87
Figure 5-32: Energy Bid Submission (HTML) Status Page 88
Figure 5-33: Resource Display (RTEM) 89
Figure 5-34: Energy Offer Submission (HTML) 90
Figure 5-35: Energy Offer Submission (HTML) Status Page 91
Figure 5-36: Energy Bid/Offer Retrieval/Submission (ASCII) 93
Figure 5-37: Download Request Successful Dialog 93
Figure 5-38: Downloaded Energy Bid/Offer File 94
Figure 5-39: Energy Bid/Offer Upload File 94
Figure 5-40: Energy Bid/Offer Submission (ASCII) 95
Figure 5-41: Upload Request Successful Dialog 95
Figure 5-42: Energy Bid/Offer Submission (ASCII) Status File 96
Figure 5-43: Energy Offer/Bid Retrieval (HTML) 97
Figure 5-44: Retrieved Energy Offer /Bid (HTML) 98
Figure 5-45: Energy Bid/Offer Cancellation (HTML) Status Page 99
Figure 5-46: Energy Bid/Offer Cancellation File 100
Figure 5-47: Resource Display (OR) 101
Figure 5-48: OR Bid Submission (HTML) 102
Figure 5-49: OR Bid Submission (HTML) Status Page 103
Figure 5-50: Resource Display (OR) 104
Figure 5-51: OR Offer Submission 105
Figure 5-52: OR Offer Submission (HTML) Status Page 106
Figure 5-53: OR Bid/Offer Retrieval/Submission (ASCII) 108
Figure 5-54: Download Request Successful Dialog 108
Figure 5-55: Downloaded OR Bid/Offer File 109
Figure 5-56: OR Bid/Offer Upload File 110
Figure 5-57: OR Bid/Offer Submission (ASCII) 110
Figure 5-58: Upload Request Successful Dialog 110
Figure 5-59: OR Bid/Offer Submission (ASCII) Status FileOR Bid Retrieval (HTML) 111
Figure 5-60: OR Offer Retrieval (HTML) 113
Figure 5-61: Retrieved OR Offer (HTML) 114
Figure 5-62: OR Offer Cancellation (HTML) Status Page 115
Figure 5-63: OR Bid/Offer Cancellation File 116
Figure 5-64: Summary Retrieval (HTML) 117
Figure 5-65: Market Summary Display 118
Figure 5-66: Short Notice Energy Offer (HTML) 120
Figure 5-67: Short Notice Energy Offer Status Page 121
Figure 5-68: Short Notice Submission Acceptance Message 122
Figure 5-69: Short Notice Submission Rejection Message 123

Table of Changes

Reference (Section and Paragraph)	Description of Change
Appendix B	Added offers/bids submission validation rules and samples in Appendix B. The information in Appendix B is from IMO_TPL_0016, IMO_TPL_0028, IMO_TPL_0029, IMO_TPL_0030 which will be obsoleted in future.

1. Introduction

1.1 Purpose

The purpose of this document is to describe the functions, capabilities and user interface of the Energy Market GUI hosted within the IESO Portal

1.2 Scope

This document describes the systems functionality of the *IESO's* Market Operations System (MOS) that is available to *Market Participants* through the Portal. This system user guide does not address the wider business processes associated with the *IESO*-administered markets that the MOS is intended to support. (for which *Market Participants* are referred to the relevant *Market Manual*s). .

1.3 Who Should Use This Document

The document is intended for Energy Market application users.

1.4 Conventions

In this Guide, there are several special styles in use:

Screen Names and Menu Names – When screen and menu names are referred to in the text of this document, they will appear in BOLD Arial font.

Screen Column Headings – When the column headings on a screen are referred to in the text of this document, they will appear in *ITALIC Arial* font.

Option Names – When the options names or system status under a screen column heading are referred to in the text of this document, they will appear in *ITALIC default* font.

Field Names - When field or section names on a screen are referred to in the text of this document, they will appear in *ITALIC default* font. Names of buttons on a screen will also be in this style.

Names of Paper Documents – When the names of paper documents are referred to in the text of this document, they will appear in "QUOTES".

1.5 How This Document is Organized

Section 2- Provides an overview of the Energy Market application hosted within the IESO Portal and Internet Explorer browser.

Section 3 - Where to find information on configuration issues.

Section 4 - Describes each of the displays available.

Appendix A- Known Energy Market GUI Problems.

Appendix B - Submission Validation Rules & Samples

1.6 Associated Documents

Capability simulations and documentation for using MOS are located at the *IESO* web-site (www.ieso.ca).

– End of Section –

2. Overview

This section provides an overview of the Energy Market GUI tool purpose and available user functions, including interfaces to other applications. The MPI has been migrated into the Portal to eliminate the need for digital certificates. The Energy Market GUI can now be accessed by a user for one or more Market Participants that the user represents using a single Portal UserID and password.

2.1 General

2.1.1 Systems

MOS (Market Operation System) is a software system that has several components, one of which is the Energy Market GUI which is now hosted within the IESO Portal.

The Energy Market GUIis supplied by the *IESO* to all *participants* as the default front-end for training, bidding for the Ontario Electricity Market.

The Energy Market GUI enables *Market Participants* to send and receive market information to and from the Market Operation System (MOS).

The Energy Market GUI operates on a PC (or any other computer system) that can run Internet Explorer 7.X and can establish a connection to the MOS web server.

All *participants* who bid generation or loads are expected to have backup and bidding systems that can be used in the event of the Energy Market GUI or communications systems failure.

2.1.2 Energy Market GUI and Markets

There are two main parts of the *Ontario Electricity Market*.

- A *real time physical market*, which sets a spot price for *energy*, controls its dispatch, and controls payments and receipts.
- A *financial market*, which allows *Market Participants* who buy and sell *energy* at prices based on the spot price set in the physical market. This helps to reduce the level of risk by establishing financial contracts using financial instruments such as swaps.

The Energy Market GUI is an interface to both markets. Traders in the financial market might use the Energy Market GUI to obtain valuable information to help them make decisions about what financial contracts to put in place, and *generators* will use the Energy Market GUI to handle their requirements regarding physical energy.

2.1.3 Typical uses of the Energy Market GUI

Participants in the Ontario Energy Market can use the Energy Market GUI to:

- Prepare and submit *bids*
- Re-bid based on changes in plant availability and operation
- Receive Market Notices sent by System Operators

2.2 Functions

The Energy Market GUI has multiple tiers accessed through menus once it has been accessed within the IESO Portal. It supports the following key functions:

- Bidding
- Re-bidding
- Market Notices (System Messages)

2.2.1 Basic Browser Functions

While this user guide is not intended to give instruction on how to use Microsoft Internet Explorer browsers, for users new to the browsers, it may be useful to emphasize a few key points about some of Microsoft Internet Explorer's basic controls and features.

Internet Explorer 7.X

Standard IE 7.X Toolbars – Windows XP-SP2 and Vista

The IE 7.X toolbars Menu Bar and Links - are located at the top of the browser window. You can hide or reveal these toolbars by using the View menu and then the Toolbars options as shown in Figure 2-1.

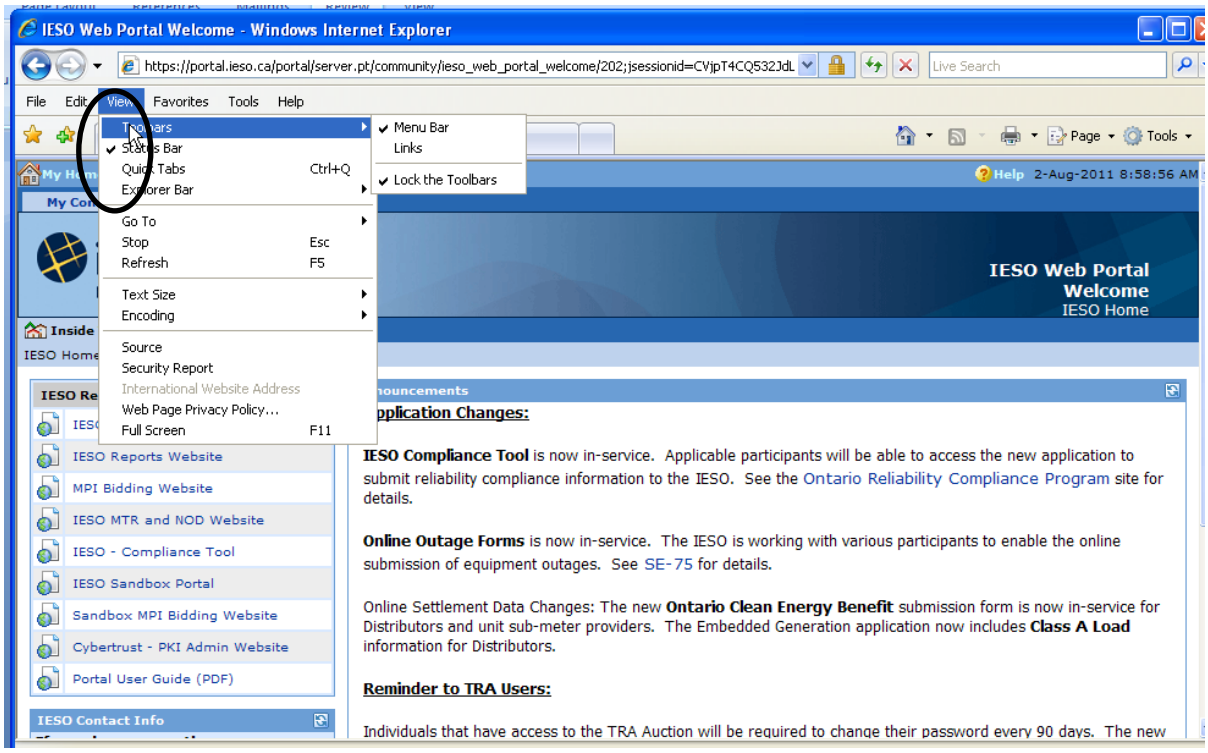
IESO Web Portal Welcome - Windows Internet Explorer
https://portal.ieso.ca/portal/server.pt/community/ieso_web_portal_welcome/202;jsessionid=CVjpT4CQ532JdL
Live Search
File Edit View Favorites Tools Help
Toolbars
Status Bar
Quick Tabs Ctrl+Q
Explorer Bar
Go To
Stop Esc
Refresh F5
Text Size
Encoding
Source
Security Report
International Website Address
Web Page Privacy Policy...
Full Screen F11
Menu Bar
Links
Lock the Toolbars
Page Tools
Help 2-Aug-2011 8:58:56 AM
IESO Web Portal
Welcome
IESO Home
Inside
IESO Home
IESO Reports Website
MPI Bidding Website
IESO MTR and NOD Website
IESO - Compliance Tool
IESO Sandbox Portal
Sandbox MPI Bidding Website
Cybertrust - PKI Admin Website
Portal User Guide (PDF)
IESO Contact Info
pplication Changes:
IESO Compliance Tool is now in-service. Applicable participants will be able to access the new application to submit reliability compliance information to the IESO. See the Ontario Reliability Compliance Program site for details.
Online Outage Forms is now in-service. The IESO is working with various participants to enable the online submission of equipment outages. See SE-75 for details.
Online Settlement Data Changes: The new Ontario Clean Energy Benefit submission form is now in-service for Distributors and unit sub-meter providers. The Embedded Generation application now includes Class A Load information for Distributors.
Reminder to TRA Users:
Individuals that have access to the TRA Auction will be required to change their password every 90 days. The new

Figure 2-1: Standard Internet Explorer 7.X Toolbars Display

The Address toolbar in IE 7.X has an input field displaying the current URL (the "name" associated with a web-site). The specific URL related to the Portal (https://portal.ieso.ca) that hosts the Energy Market GUI can be entered here. You can also use the *dropdown* button on the right of the Location toolbar to view and retrieve previously accessed URLs.

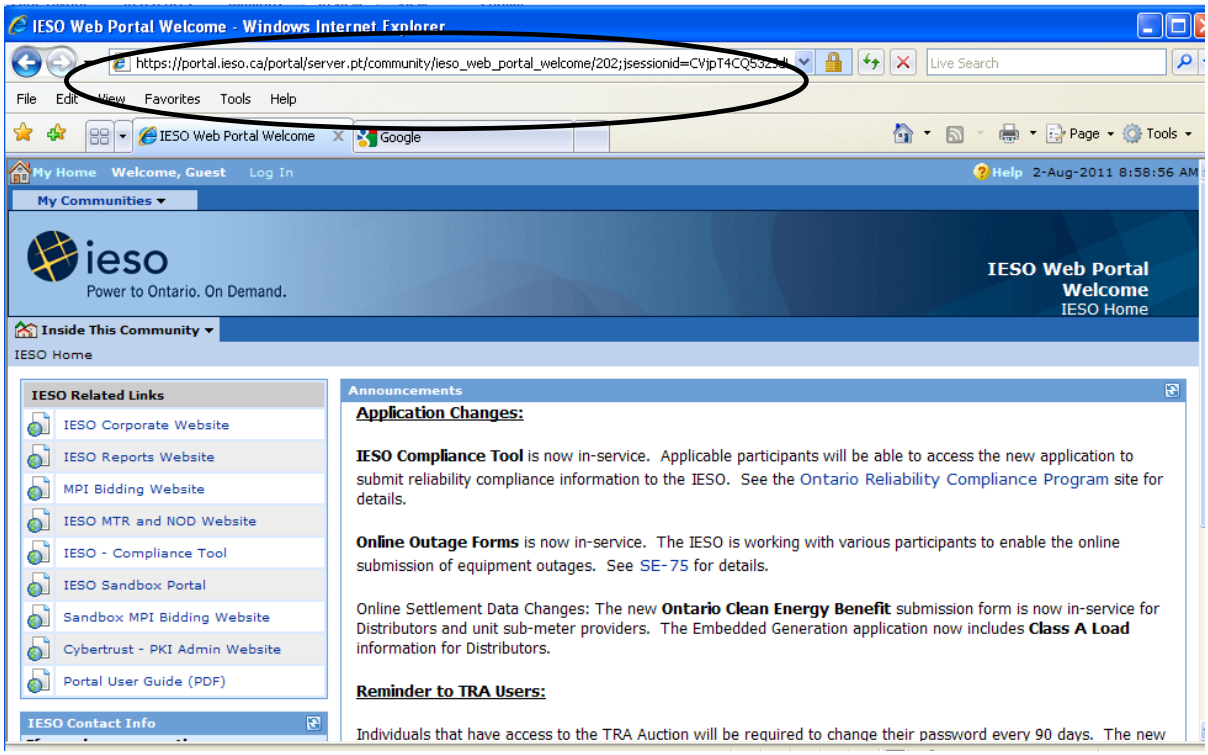
IESO Web Portal Welcome - Windows Internet Explorer
https://portal.ieso.ca/portal/server.pt/community/ieso_web_portal_welcome/202;jsessionid=CVjpT4CQ5325
File Edit View Favorites Tools Help
IESO Web Portal Welcome
Google
My Home Welcome, Guest Log In
Help 2-Aug-2011 8:58:56 AM
My Communities
ieso
Power to Ontario. On Demand.
IESO Web Portal
Welcome
IESO Home
Inside This Community
IESO Home
IESO Related Links
IESO Corporate Website
IESO Reports Website
MPI Bidding Website
IESO MTR and NOD Website
IESO - Compliance Tool
IESO Sandbox Portal
Sandbox MPI Bidding Website
Cybertrust - PKI Admin Website
Portal User Guide (PDF)
IESO Contact Info
Announcements
Application Changes:
IESO Compliance Tool is now in-service. Applicable participants will be able to access the new application to submit reliability compliance information to the IESO. See the Ontario Reliability Compliance Program site for details.
Online Outage Forms is now in-service. The IESO is working with various participants to enable the online submission of equipment outages. See SE-75 for details.
Online Settlement Data Changes: The new Ontario Clean Energy Benefit submission form is now in-service for Distributors and unit sub-meter providers. The Embedded Generation application now includes Class A Load information for Distributors.
Reminder to TRA Users:
Individuals that have access to the TRA Auction will be required to change their password every 90 days. The new

Figure 2-2: The Internet Explorer 7.X Address Toolbar

The Back and Forward Buttons can be used as an alternative means of navigating the Portal, old MPI and other web sites as shown in Figure 2-3. On the left of the toolbar are the *Back* and *Forward* arrow buttons. The IE 7.X browser 'remembers' the pages accessed and the *Back* and *Forward* buttons can be used to step back or go forward to a previously accessed page. If the buttons are dimmed, there are no previously accessed pages available.

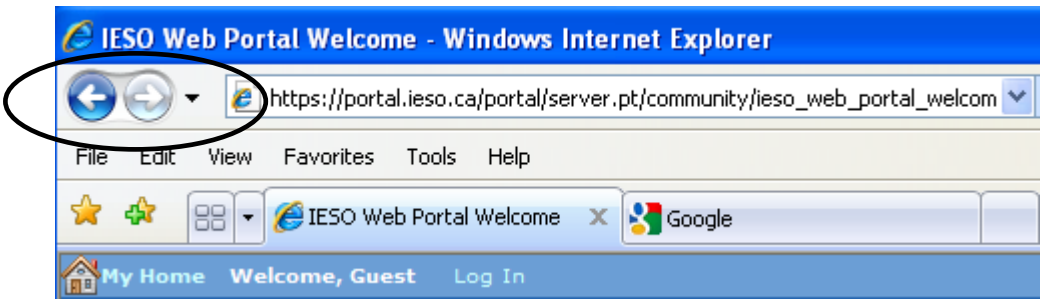
IESO Web Portal Welcome - Windows Internet Explorer
https://portal.ieso.ca/portal/server.pt/community/ieso_web_portal_welcom
File Edit View Favorites Tools Help
IESO Web Portal Welcome
Google
My Home Welcome, Guest Log In

Figure 2-3: The Internet Explorer 7.X Back and Forward Buttons

The *Refresh* button can be used to ensure that you have the most current version of the displayed screen.

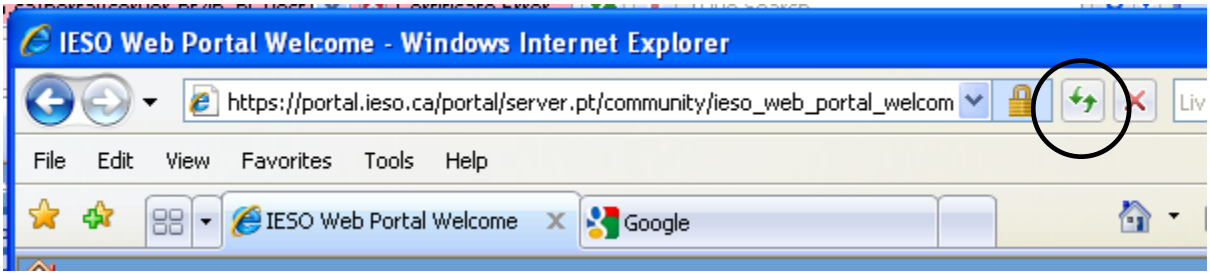
IESO Web Portal Welcome - Windows Internet Explorer
https://portal.ieso.ca/portal/server.pt/community/ieso_web_portal_welcom
File Edit View Favorites Tools Help
IESO Web Portal Welcome
Google

Figure 2-4: The Internet Explorer 7.X Refresh Button

The IE 7.X Links toolbar can be utilized to hold the URLs for the Portal Production and Sandbox environments as well as other websites for easy navigation (this is the same as putting them in the Links folder in Favorites center (the Yellow Star). Mouse click and drag on the 'IE' icon in the address toolbar over to the Links toolbar double arrow symbol and release when the address field contains the Portal URL. See Figure 2-5. Note that the production Energy Market application will be located in the Production Portal and the Sandbox Energy Market application will be located in the Sandbox Portal.

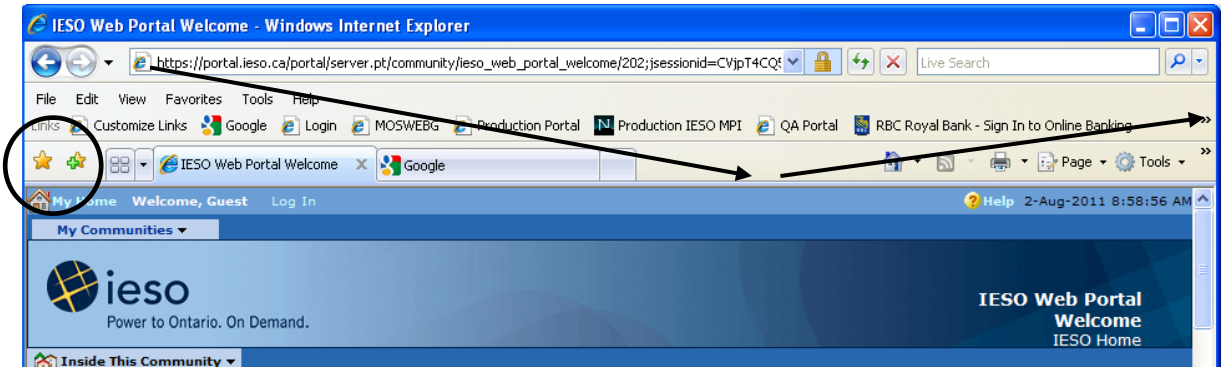
IESO Web Portal Welcome - Windows Internet Explorer
File Edit View Favorites Tools Help
Customize Links Google Login MOSWEBG Production Portal Production IESO MPI QA Portal RBC Royal Bank - Sign In to Online Banking
IESO Web Portal Welcome
Google
Welcome, Guest Log In
Help 2-Aug-2011 8:58:56 AM
My Communities
ieso
Power to Ontario. On Demand.
IESO Web Portal
Welcome
IESO Home
Inside This Community

Figure 2-5: Copying the Portal URL to the Internet Explorer 7.X Links Toolbar

Click on the desired Links toolbar's website name shown or on the double arrow dropdown list and locate the appropriate entry. A right mouse button click allows the user to use the Rename option and name the link appropriately to something like *IESO* Production Portal or *IESO* Sandbox Portal as required. See Figure 2-6. This is the same as renaming links in the 'Favorites' center.

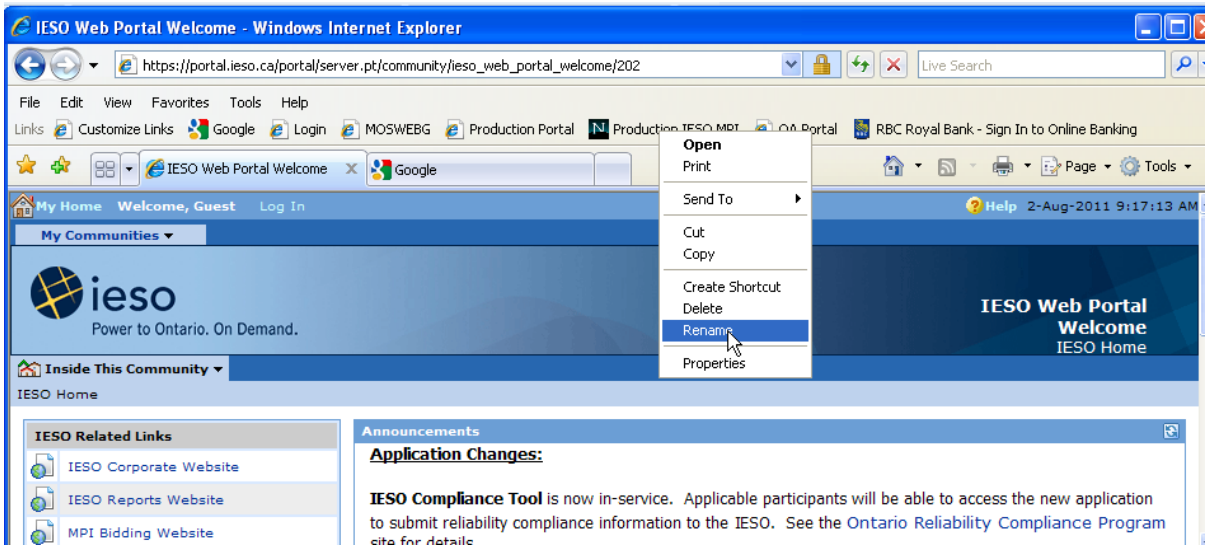

Figure 2-6: Renaming the Portal URL in the Internet Explorer 7.X Links Toolbar and List

2.3 System Information

The Portal and Energy Market GUI have been designed to be user friendly. When you start the Portal, then login and access the Market Trading 'community', you are taken to the Market Trading community Home page in the main browser window. The QA system is shown in Figure 2.7. Production is similar. The home page will have links to other IESO systems and relevant announcements displayed on it. Activating any one of these will open up another IE window that is connected to the other web site leaving the Portal window still active. From time to time the content on the home page will be updated by the IESO with announcements etc. relevant to Energy Market users.

Market Trading - Windows Internet Explorer
https://portal-qa.ieso.ca/portal/server.pt/community/market_trading/256
Certificate Error
Live Search
File Edit View Favorites Tools Help
Market Trading
Google
Page Tools
My Home Welcome, MALCOLM G DELLOW My Account Log Off
Help Aug 2, 2011 9:53:39 AM
My Communities
Market Trading
Market Trading (QA...
ieso
Power to Ontario. On Demand.
Market Trading
Home
Inside This Community
Related Communities
Home
IESO Energy Market
IESO Public Website
MPI Website
Compliance Tool QA Website
Portal User Guide
IESO Sandbox Portal
IESO MTR and NOD Website
Cybertrust PKI Administration
IESO Reports Site
Password News
The IESO recommends that market
Energy Market Announcements
This Community is the future home for the Energy Market application (MPI Workspace) currently accessed via the MOSWEB site with digital certificate credentials.
Energy Market Application
The Energy Market page allows you to access the Energy Market bid and offer application in the Portal with the use of a UserID and password credential. In addition only a single account is required for each user who needs to access the Energy Market application on behalf of multiple Market Participants. To initiate the Energy Market application the Market Participant drop-down selection list must first be used to pick a Market Participant. For each user, only authorized Market Participants (i.e. that the user is registered for) will be displayed in the drop-down list. Once a Market Participant is selected, the application will start with the user logged in to the Energy Market application for the chosen Market Participant.
More info

Figure 2-7: Market Trading Community Home Page Display

To access the Energy Market application click on the IESO Energy Market page link shown circled above. This will activate a Market Participant drop down selection list page and portlet as shown in Figure 2.8. This list will be able to display all Market Participants that the logged in user has been registered for access to the Energy Markets. The user must choose the desired Market Participant to act as for the session and then click on the 'Go' button. If no Market Participant match is found for the user the Market Participants drop down list will be empty and the user should contact their IESO Customer Relations representative to ensure that the user's registration information is correct and resolution of the problem.

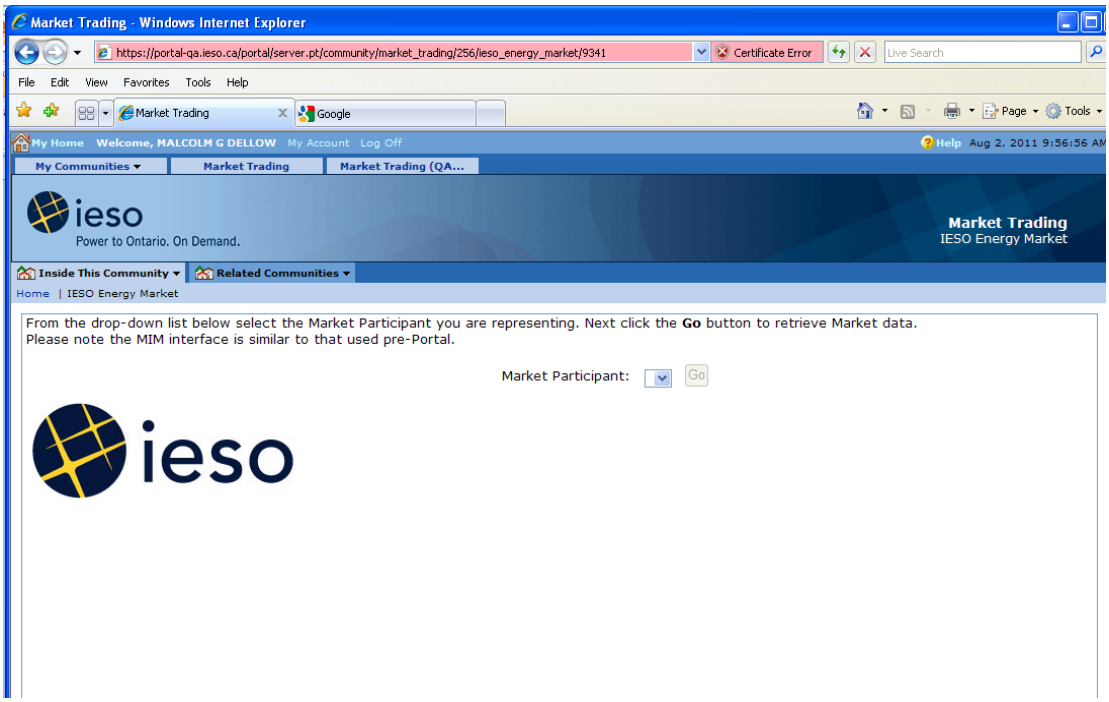
Market Trading - Windows Internet Explorer
https://portal-qa.ieso.ca/portal/server.pt/community/market_trading/256/ieso_energy_market/9341
Certificate Error
Live Search
File Edit View Favorites Tools Help
Market Trading
Google
Page Tools
My Home Welcome, MALCOLM G DELLOW My Account Log Off
Help Aug 2, 2011 9:56:56 AM
My Communities
Market Trading
Market Trading (QA...
ieso
Power to Ontario. On Demand.
Market Trading
IESO Energy Market
Inside This Community
Related Communities
Home | IESO Energy Market
From the drop-down list below select the Market Participant you are representing. Next click the Go button to retrieve Market data.
Please note the MIM interface is similar to that used pre-Portal.
Market Participant:
Go
ieso

Figure 2-8: Energy Market GUI - Market Participant Drop Down Selection List

Once the user has selected a valid Market Participant from the drop down list and clicked on the Go button the process to connect to the MOS system and activate the Energy Market GUI will begin. The user may see a security dialogue box as shown in Figure 2.9 below. The user must click on the 'Yes' button to proceed.

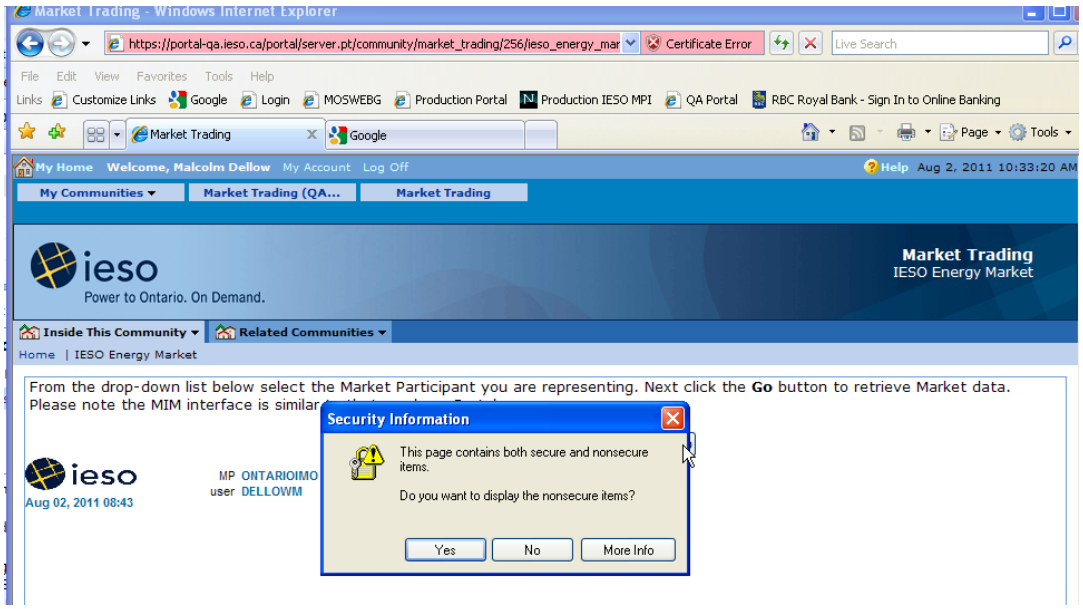
Market Trading - Windows Internet Explorer
https://portal-qa.ieso.ca/portal/server.pt/community/market_trading/256/ieso_energy_mar
Certificate Error
Live Search
File Edit View Favorites Tools Help
Links Customize Links Google Login MOSWEBG Production Portal Production IESO MPI QA Portal RBC Royal Bank - Sign In to Online Banking
Market Trading
Google
Page Tools
My Home Welcome, Malcolm Dellow My Account Log Off
Help Aug 2, 2011 10:33:20 AM
My Communities
Market Trading (QA...
Market Trading
ieso
Power to Ontario. On Demand.
Market Trading
IESO Energy Market
Inside This Community
Related Communities
Home | IESO Energy Market
From the drop-down list below select the Market Participant you are representing. Next click the Go button to retrieve Market data.
Please note the MIM interface is similar
Security Information
This page contains both secure and nonsecure items.
Do you want to display the nonsecure items?
Yes
No
More Info
ieso
Aug 02, 2011 08:43
MP ONTARIOIMO
user DELLOWM

Figure 2-9: Energy Market GUI Initialization

The familiar MPI GUI main page will be displayed in the Portal; now referenced as the Energy Market GUI along with the two other popup windows that existed in the MPI.

Figure 2-10: Energy Market GUI Display

One of the popup windows is a **System Messages Display** window that updates when a message is sent from the *IESO*. These are issued by the IESO in the case of significant events affecting the market and may be general or targeted at a specific *participant*.

IMO System Messages Display - Microsoft Internet Explorer
ieso
System Messages Display
2007/01/31 10:08:31 RTPM Dispatch Constrained results published for date: 20070131, hour: 10
2007/01/31 10:06:08 RTPM Dispatch Unconstrained 5 minute prices published for date: 20070131, hour: 11
2007/01/31 10:06:04 RTPM Dispatch Constrained 5 minute OPRV schedules published for date: 20070131, hour: 11
2007/01/31 10:06:03 RTPM Dispatch Constrained 5 minute Energy schedules published for date: 20070131, hour: 11
2007/01/31 10:01:42 RTPM Dispatch Unconstrained results published for date: 20070131, hour: 10
2007/01/31 10:01:12 RTPM Dispatch Unconstrained 5 minute prices published for date: 20070131, hour: 10
2007/01/31 10:00:56 RTPM Dispatch Constrained 5 minute OPRV schedules published for date: 20070131, hour: 11

Figure 2-11: System Messages Display

There is also a **Market Status Display** window that continually updates and displays the current status for each of the financial and physical markets for the present trading period.

The Energy Market GUI will give you automatic updates each time a new market notice is issued.

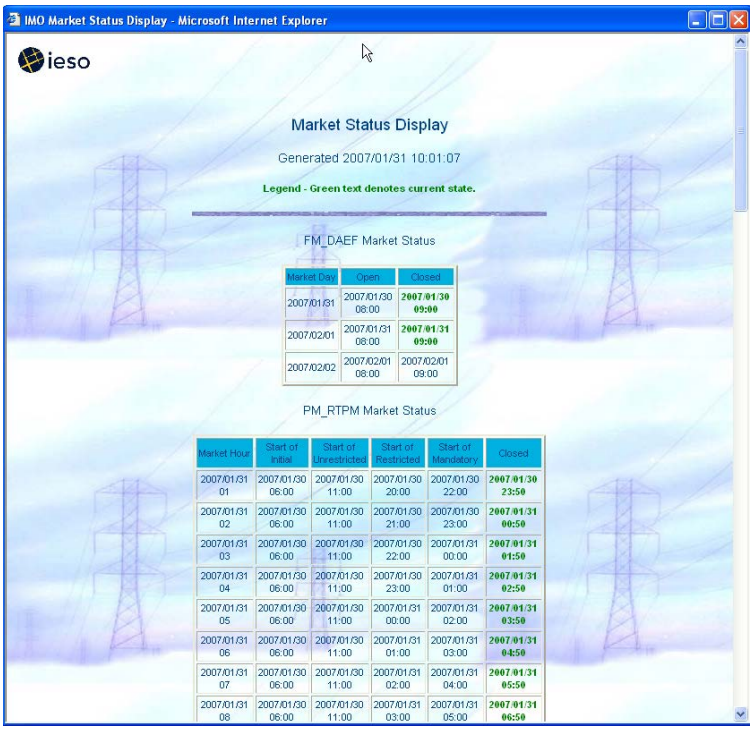

Figure 2-12: Market Status Display

To access the Energy Market GUI Workspace use the drop down list as shown in Figure 2-13 to choose ‘Workspace’.

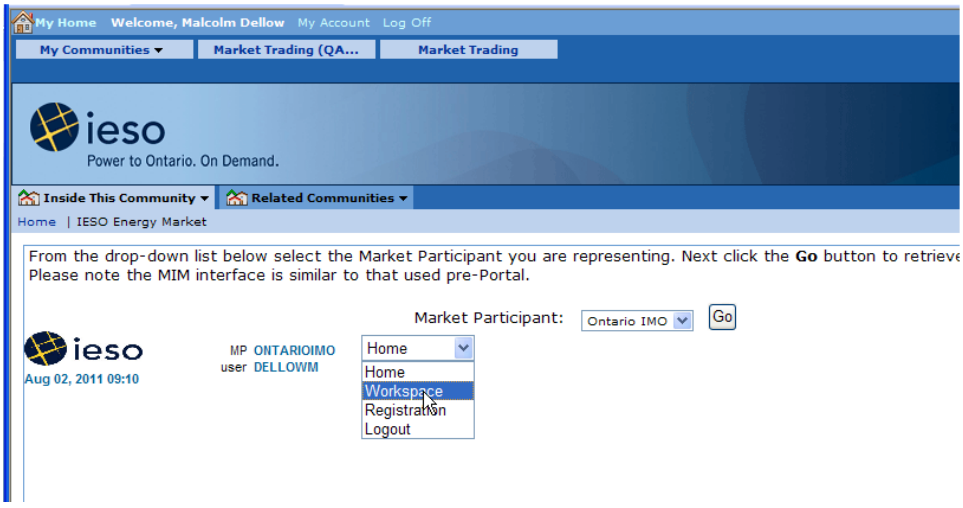

Figure 2-13: Energy Market GUI Workspace Initialization

The Energy Market GUI Works Space will then be rendered in the portal within a second or two as shown below.

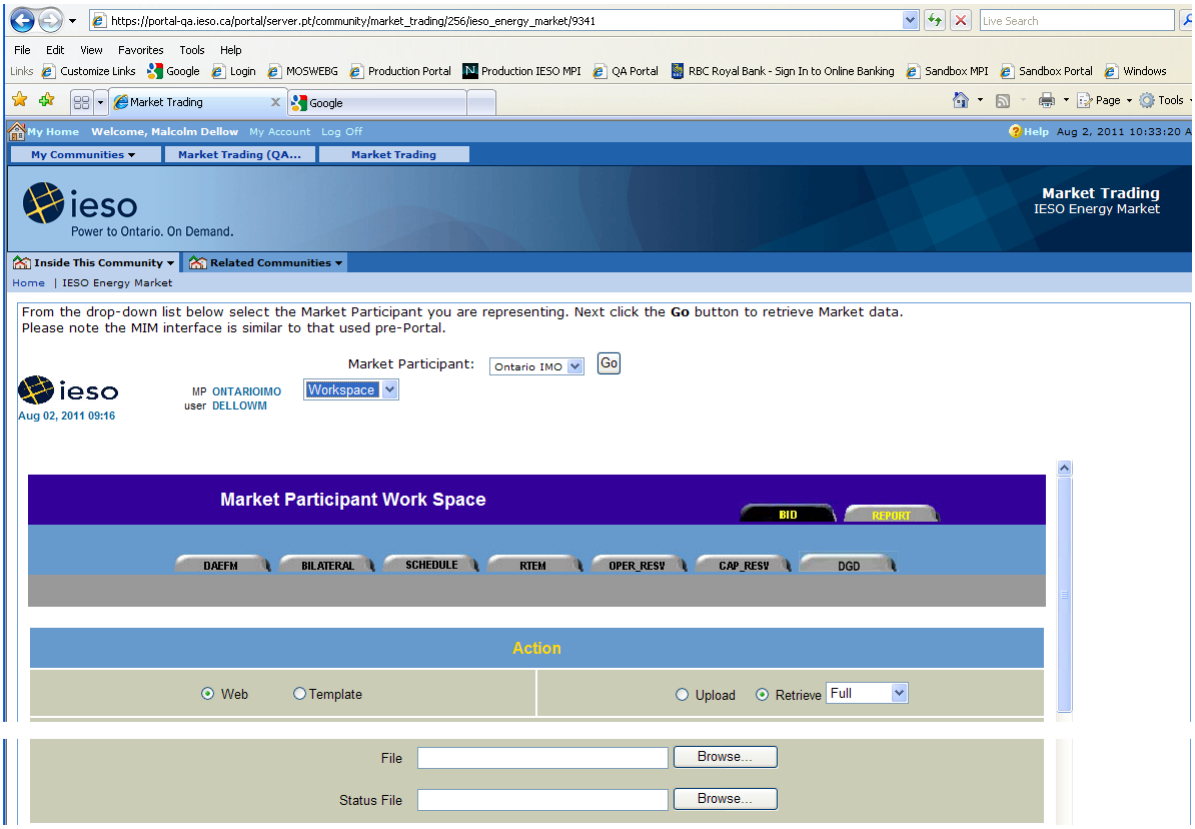

Figure 2-14: Energy Market GUI Work Space

2.3.1 Bidding

One of the main uses of the Energy Market GUI is to enable market participants to submit *offers* and *bids* for energy. A bid contains one entry for each resource owned or operated by the *Market Participant*. If, for example, the *participant* has six resources, there will be six separate *bids*, each with its own nominated pricing and energy quantities.

A resource can consist of one or more physical units that are capable of being controlled as a single unit. Typically, a resource will be one or more generating sets at a single power station.

Bids from the *Market Participants* are matched to *demand* forecasts to control which resource will be dispatched either to produce power or to adjust loading levels.

2.3.2 Types of bids

Using the Energy Market GUI, one can create and submit three different kinds of *bids*.

- *Daily bids* - are submitted generally for the day-ahead market. A daily bid can only be submitted during an Open Market time window. There are separate time windows for both Physical Markets and Financial Markets.
- *Standing Bids* - are submitted by a *Market Participant* to ensure a default bid or offer is available for a specific period of time. A Standing Bid is submitted in the same way as a

Daily Bid except that the bid is identified as *Standing* and a day type is identified. This day type can be either for individual days *Mon* through *Sun* or for *ALL* days.

Note: The above definition of 'Standing Bids' includes Energy, Operating Reserve and Schedules. *Standing Physical Bilateral Contracts bids* will be identified as 'SPBCD'.

A Standing Bid is converted at 06:00 am for the day-ahead energy market and may not overlap for the same resource. Therefore it is not possible to have a resource with a standing bid with day type *ALL* expiring on Friday and day type *SAT* for the following day.

A SPBCD Bid is converted at 00:30 am for the day ahead bilateral market and may not overlap for the same resource. Therefore it is not possible to have a resource with a standing bid with day type *ALL* expiring on Friday and day type *SAT* for the following day.

- *Rebids* - Bids may be updated as often as the *Participant* wishes as long as the constraints described for daily *bids* are adhered to.

2.3.3 Bid Acknowledgements

When a bid or offer is submitted through the Energy Market GUI, the Market Information Request Processor (MIRP) decodes the bid or offer, generates a transaction ID and validates messages for the relevant bid file. An acknowledgement will be sent back from the MIRP when the bid has been received. You must inspect the acknowledgement file returned from the *IESO* to determine that the:

- bid has been received
- the MIRP was able to read it successfully
- the Bid or Offer has been applied to MOS

You should never have to wait more than five minutes for an acknowledgement file and in most cases you should receive an acknowledgement file within three or four seconds of submitting a bid.

– End of Section –

3. Configuration

For the Energy Market GUI to work properly, the user PC must be set up properly and must use the Microsoft Internet Explorer 7.X browser (under Windows XP-SP2 or Vista). If using Microsoft Internet Explorer 8 or 9 browser the user should configure them so that the IESO website is defined in the browser Compatibility View Settings as shown in Figure 3-1 and Figure 3-2

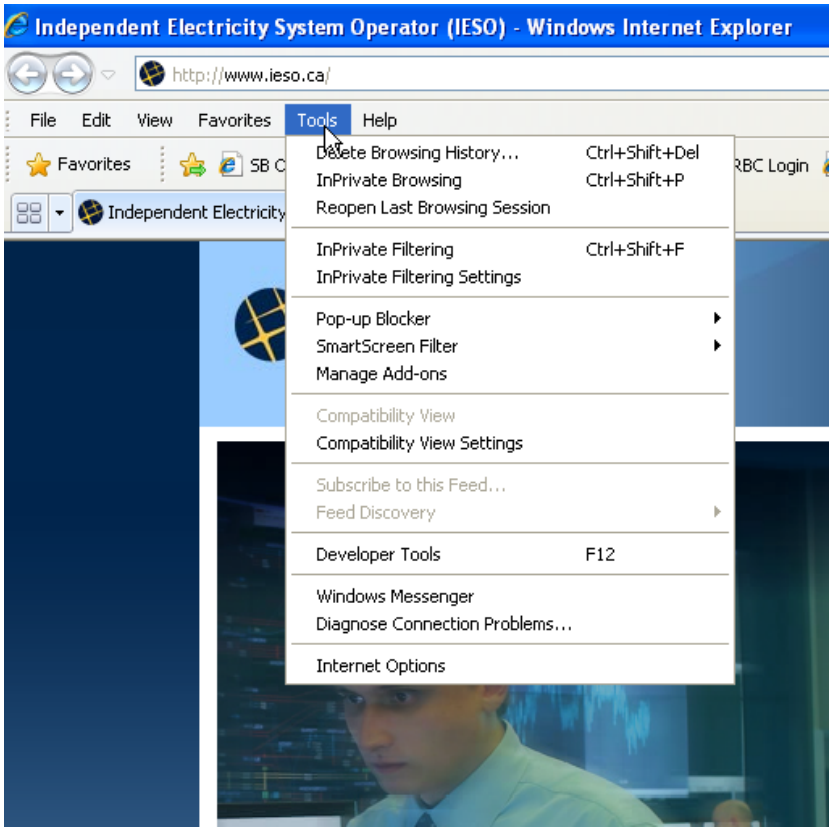

Figure 3-1: IE 8 or 9 Compatibility View Settings

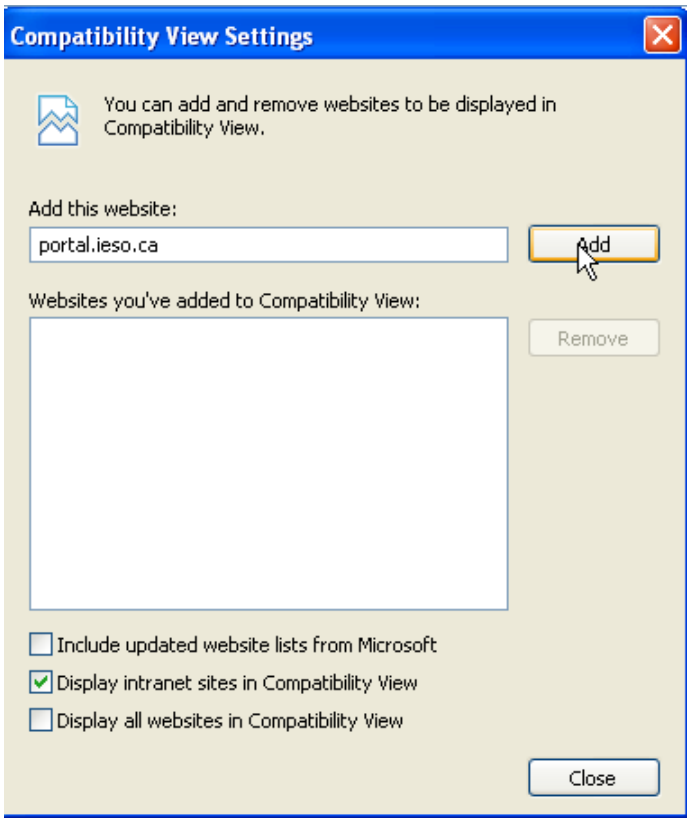
Compatibility View Settings
You can add and remove websites to be displayed in Compatibility View.
Add this website:
portal.ieso.ca
Add
Websites you've added to Compatibility View:
Remove
Include updated website lists from Microsoft
Display intranet sites in Compatibility View
Display all websites in Compatibility View
Close

Figure 3-2: Adding IESO website to Browser Compatibility View Settings

For information on setting up your PC and browser properly, see the *Participant Technical Reference Manual, Section 2, Participant Workstation Network and Security,* which is located at the *IESO* website (www.ieso.ca).). Also refer to the *Identity Management Operations Guide* regarding installation of the required Java Runtime Environments.

- End of Section -

4. Displays

This section describes the displays provided by the Portal and Energy Market GUI subsystem. For each display, it explains how the display is accessed and describes fields and buttons presented in the display.

4.1 Login Displays

4.1.1 Initial Login to Portal for Access to the Energy Market GUI

Use and Presentation of Portal User Account Name and Password

Energy Market GUI access requires valid login to the Portal first and then a dynamic matching of the User Account Name used to the one registered for Physical Market access on the IESO registration system in order to authorize access to Market Participant data. Essentially this means the user must first present an *IESO* issued, User Account Name and password for authentication when the *IESO* secure Portal web-site is logged into and the MOS backend web server requires an authorized Market Participant that the user has been registered for to be chosen and presented back to the server. In no manner can a user access the Energy Market GUI outside of the IESO Portal. Figure 4-1 shows the current IESO Portal Welcome page with the 'Log In' link at the top of the banner.

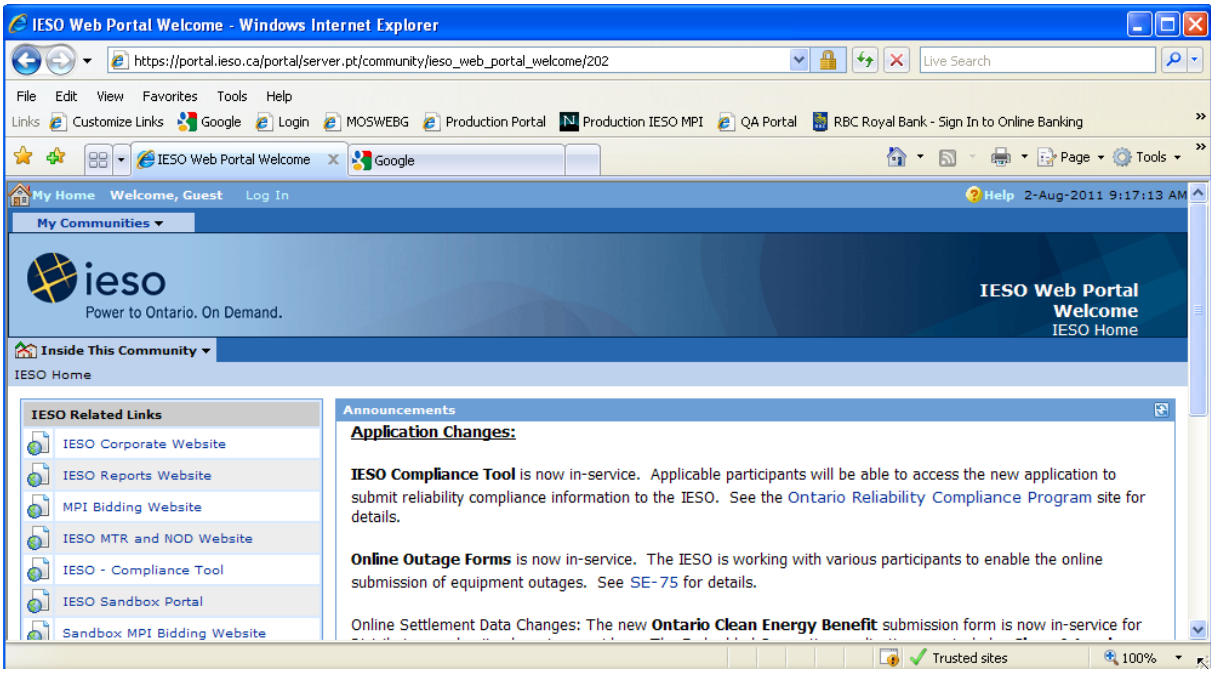
IESO Web Portal Welcome - Windows Internet Explorer
https://portal.ieso.ca/portal/server.pt/community/ieso_web_portal_welcome/202
File Edit View Favorites Tools Help
Customize Links Google Login MOSWEBG Production Portal Production IESO MPI QA Portal RBC Royal Bank - Sign In to Online Banking
IESO Web Portal Welcome
Google
My Home Welcome, Guest Log In
Help 2-Aug-2011 9:17:13 AM
My Communities
ieso
Power to Ontario. On Demand.
IESO Web Portal
Welcome
IESO Home
Inside This Community
IESO Home
IESO Related Links
IESO Corporate Website
IESO Reports Website
MPI Bidding Website
IESO MTR and NOD Website
IESO - Compliance Tool
IESO Sandbox Portal
Sandbox MPI Bidding Website
Announcements
Application Changes:
IESO Compliance Tool is now in-service. Applicable participants will be able to access the new application to submit reliability compliance information to the IESO. See the Ontario Reliability Compliance Program site for details.
Online Outage Forms is now in-service. The IESO is working with various participants to enable the online submission of equipment outages. See SE-75 for details.
Online Settlement Data Changes: The new Ontario Clean Energy Benefit submission form is now in-service for
Trusted sites
100%

Figure 4-1: Portal Welcome Page

Once the user has initiated login a redirect to the Portal login page is done. An example is shown in Figure 4-2. Note that a legal disclaimer on accessing the Energy Market GUI and Transmission Rights

Management Auction application will be on the login page and the user should read and understand this.

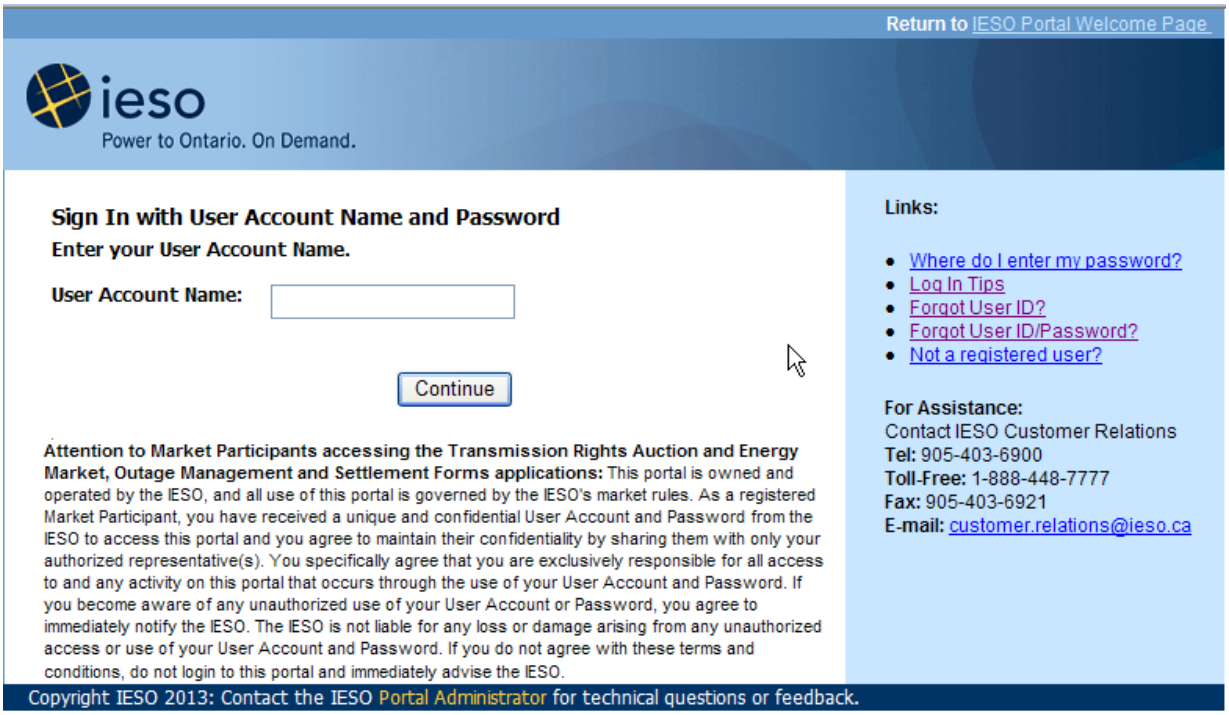
Return to IESO Portal Welcome Page
ieso
Power to Ontario. On Demand.
Sign In with User Account Name and Password
Enter your User Account Name.
User Account Name:
Continue
Attention to Market Participants accessing the Transmission Rights Auction and Energy Market, Outage Management and Settlement Forms applications: This portal is owned and operated by the IESO, and all use of this portal is governed by the IESO's market rules. As a registered Market Participant, you have received a unique and confidential User Account and Password from the IESO to access this portal and you agree to maintain their confidentiality by sharing them with only your authorized representative(s). You specifically agree that you are exclusively responsible for all access to and any activity on this portal that occurs through the use of your User Account and Password. If you become aware of any unauthorized use of your User Account or Password, you agree to immediately notify the IESO. The IESO is not liable for any loss or damage arising from any unauthorized access or use of your User Account and Password. If you do not agree with these terms and conditions, do not login to this portal and immediately advise the IESO.
Links:
Where do I enter my password?
Log In Tips
Forgot User ID?
Forgot User ID/Password?
Not a registered user?
For Assistance:
Contact IESO Customer Relations
Tel: 905-403-6900
Toll-Free: 1-888-448-7777
Fax: 905-403-6921
E-mail: customer.relations@ieso.ca
Copyright IESO 2013: Contact the IESO Portal Administrator for technical questions or feedback.

Figure 4-2: Portal Login Page

The user must enter in a valid Portal User Account Name and click on the "Continue" button. The user shall then be able to enter a password on the next page presented as shown in Figure 4-3. Note that a personally chosen image and phrase will be presented to the user on each login to prove that login the authentic IESO Portal is being conducted. The chosen image and phrase is selected by the user on the first or second login to the portal. If the image and phrase does not match what the user chose, he/she should stop login and contact IESO Customer Relations immediately for assistance.

Return to IESO Portal Welcome Page
ieso
Power to Ontario. On Demand.
Sign In:
Please type your password and then click on the "enter" button.
Password:
ieso
Power to Ontario. On Demand.
18/01/2013 09:22 (EST)
enter
What's this?
Forgot your password?
Attention to Market Participants accessing the Transmission Rights Auction and Energy Market, Outage Management and Settlement Forms applications: This portal is owned and operated by the IESO, and all use of this portal is governed by the IESO's market rules. As a registered Market Participant, you have received a unique and confidential User Account and Password from the IESO to access this portal and you agree to maintain their confidentiality by sharing them with only your authorized representative(s). You specifically agree that you are exclusively responsible for all access to and any activity on this portal that occurs through the use of your User Account and Password. If you become aware of any unauthorized use of your User Account or Password, you agree to immediately notify the IESO. The IESO is not liable for any loss or damage arising from any unauthorized access or use of your User Account and Password. If you do not agree with these terms and conditions, do not login to this portal and immediately advise the IESO.
Links:
Where do I enter my password?
Log In Tips
Forgot User ID?
Forgot User ID/Password?
Not a registered user?
For Assistance:
Contact IESO Customer Relations
Tel: 905-403-6900
Toll-Free: 1-888-448-7777
Fax: 905-403-6921
E-mail: customer.relations@ieso.ca
Copyright IESO 2013: Contact the IESO Portal Administrator for technical questions or feedback.

Figure 4-3: Portal / SSO Login – Password Entry

If the image and phrase does match the user selection he/she shall input the valid password and click on the “Enter” button to complete Portal login. The Portal Welcome page will redisplay but with all ‘authorized’ community tabs displayed for the user. Where the user is registered for and authorized for the Energy Market application the user shall see a Market Trading community tab above the Portal banner as shown in Figure 4-4

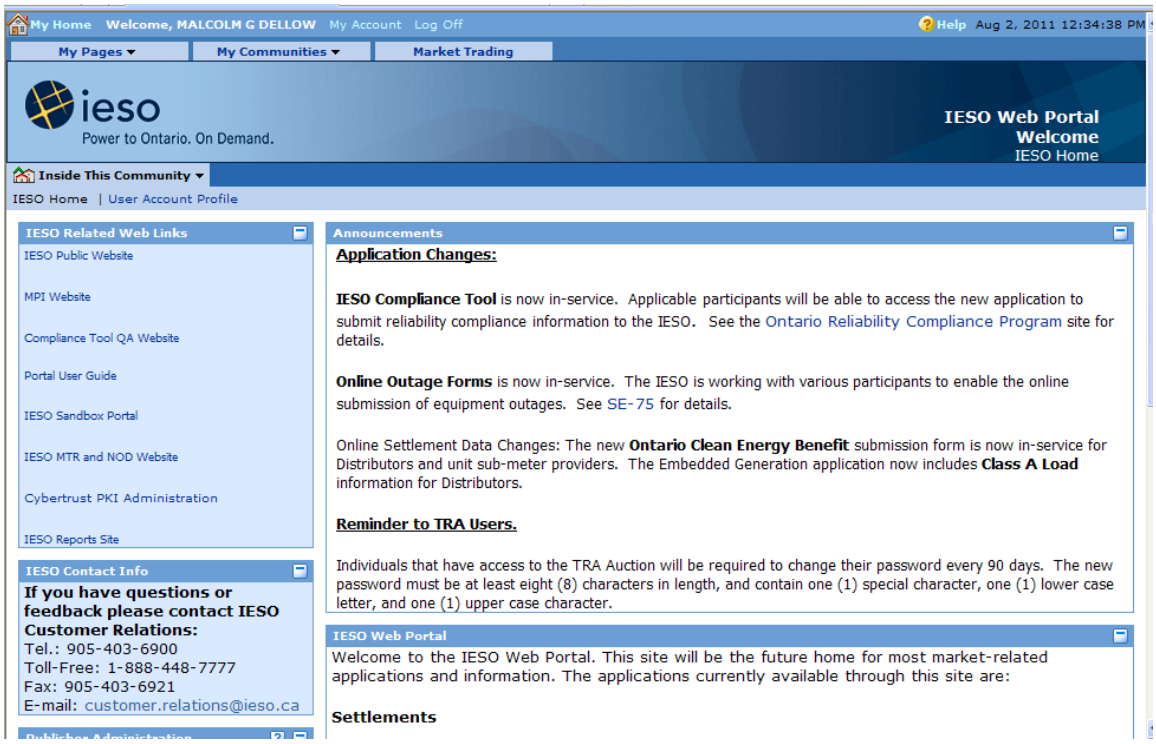
My Home Welcome, MALCOLM G DELLOW My Account Log Off
Help Aug 2, 2011 12:34:38 PM
My Pages
My Communities
Market Trading
ieso
Power to Ontario. On Demand.
IESO Web Portal
Welcome
IESO Home
Inside This Community
IESO Home | User Account Profile
IESO Related Web Links
IESO Public Website
MPI Website
Compliance Tool QA Website
Portal User Guide
IESO Sandbox Portal
IESO MTR and NOD Website
Cybertrust PKI Administration
IESO Reports Site
IESO Contact Info
If you have questions or feedback please contact IESO Customer Relations:
Tel.: 905-403-6900
Toll-Free: 1-888-448-7777
Fax: 905-403-6921
E-mail: customer.relations@ieso.ca
Announcements
Application Changes:
IESO Compliance Tool is now in-service. Applicable participants will be able to access the new application to submit reliability compliance information to the IESO. See the Ontario Reliability Compliance Program site for details.
Online Outage Forms is now in-service. The IESO is working with various participants to enable the online submission of equipment outages. See SE-75 for details.
Online Settlement Data Changes: The new Ontario Clean Energy Benefit submission form is now in-service for Distributors and unit sub-meter providers. The Embedded Generation application now includes Class A Load information for Distributors.
Reminder to TRA Users.
Individuals that have access to the TRA Auction will be required to change their password every 90 days. The new password must be at least eight (8) characters in length, and contain one (1) special character, one (1) lower case letter, and one (1) upper case character.
IESO Web Portal
Welcome to the IESO Web Portal. This site will be the future home for most market-related applications and information. The applications currently available through this site are:
Settlements

Figure 4-4: Portal - Market Trading Community Tab

The user must click on the Market Trading community tab to access the Energy Market application GUI. Upon clicking on the Market Trading community tab the user will be presented with the home page for the community. Note the portal banner will indicate on the right side what community and page the user is located on. The Market Trading community may over time have various multiple pages, one of which is the IESO Energy Market page. An example of the home page is shown in Figure 4-4.

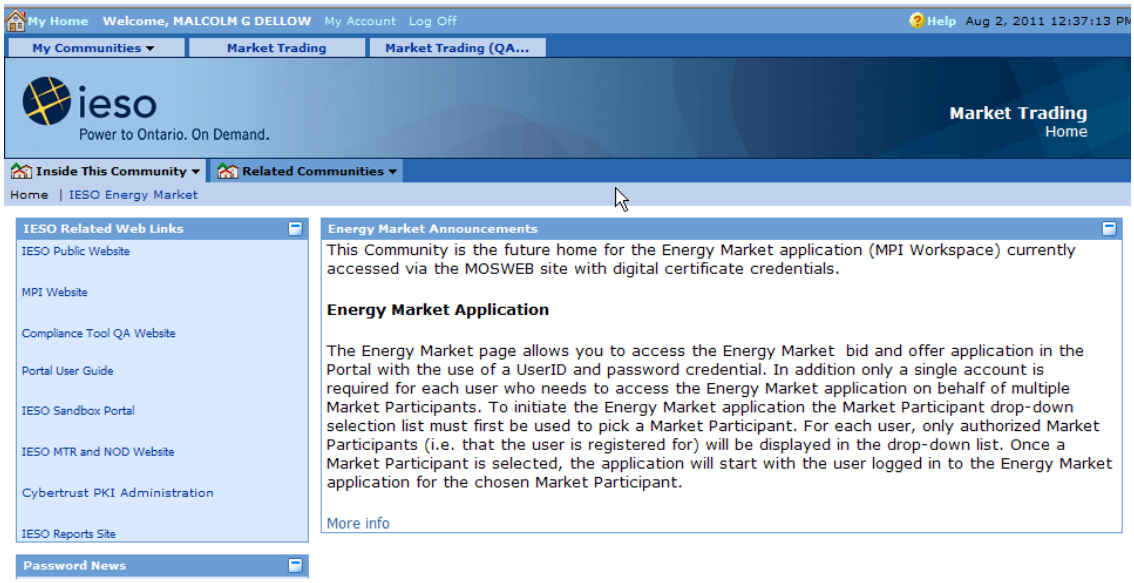
My Home Welcome, MALCOLM G DELLOW My Account Log Off
Help Aug 2, 2011 12:37:13 PM
My Communities
Market Trading
Market Trading (QA...
ieso
Power to Ontario. On Demand.
Market Trading
Home
Inside This Community
Related Communities
Home | IESO Energy Market
IESO Related Web Links
IESO Public Website
MPI Website
Compliance Tool QA Website
Portal User Guide
IESO Sandbox Portal
IESO MTR and NOD Website
Cybertrust PKI Administration
IESO Reports Site
Password News
Energy Market Announcements
This Community is the future home for the Energy Market application (MPI Workspace) currently accessed via the MOSWEB site with digital certificate credentials.
Energy Market Application
The Energy Market page allows you to access the Energy Market bid and offer application in the Portal with the use of a UserID and password credential. In addition only a single account is required for each user who needs to access the Energy Market application on behalf of multiple Market Participants. To initiate the Energy Market application the Market Participant drop-down selection list must first be used to pick a Market Participant. For each user, only authorized Market Participants (i.e. that the user is registered for) will be displayed in the drop-down list. Once a Market Participant is selected, the application will start with the user logged in to the Energy Market application for the chosen Market Participant.
More info

Figure 4-5: Portal - Market Trading Community Home Page

Once in the Market Trading community the user must click on the IESO Energy Market page to access the Energy Market GUI. The user shall be presented with a Market Participant drop down selection list. The drop down list will display one or more Market Participants for any given user. Most users will only see one Market Participant in the list. However some users who represent more than one Market Participant will see those Market Participants that they are registered for the Energy Markets in the list. This allows users who represent multiple Market Participants to login with one UserID / Password credential and access those Market Participants' data without having to logout and log back in again as with digital certificates and the MPI. Figure 4-5 shows the Energy Market - Market Participant drop-down selection list.

Figure 4-6: Energy Market – Market Participant Drop-down Selection List

Upon the first attempted access to the Energy Market GUI it may be that the digital signature applied by the *IESO*, to the Energy Market GUI applet will not be recognized by the client. Under such circumstances a security warning pop-window similar to that displayed in Figure 4-6 will activate. The user should check the "Always trust content from this publisher" and click on the Run button to proceed with the download of the applet the first time. This decision will be stored in the security settings for Java (i.e. the Java control panel) and will be remembered for subsequent logins.

Warning - Security
The application's digital signature has an error. Do you want to run the application?
Name: mpi
Publisher: Independent Electricity System Operator
From: https://portal-qa.ieso.ca
Always trust content from this publisher.
Run
Cancel
The digital signature was generated with a trusted certificate but has expired.
More information...

Figure 4-7: Energy Market GUI (MPI) Applet Java Digital Signature Warning

4.2 Energy Market GUI Main Display

The Energy Market GUI main page is displayed when access to the secure MOS system via the portal is successful for the user. This means a valid matching UserID has been presented to the MOS system via the portal and a valid Market Participant has been chosen for that UserID by the user.

During the Energy Market GUI access process, the two other popup windows are displayed in addition to the main page: Market Status Display and System Messages Display. These two popup windows should not be closed or you will not be notified of critical system messages that you must respond to so that you can continue to work in the Energy Market GUI. You may minimize these windows or click on the Energy Market GUI main page in the Portal to bring it in front of these two windows. If the two popup windows are closed they can be re-activated again as described in section 4.4.1. However no matter what, the two popup windows will re-activate and redisplay based on their automatic update schedule.

Main Page Description

A sample Energy Market GUI main page hosted in the IESO Portal is shown below. (To conserve space in this guide, screen images may be adjusted to fit and the browser controls will not be shown.)

Inside This Community
Related Communities
Home | IESO Energy Market
From the drop-down list below select the Market Participant you are representing. Next click the Go button to retrieve Market data.
Please note the MIM interface is similar to that used pre-Portal.
Market Participant:
Ontario IMO
Go
ieso
Aug 02, 2011 13:00
MP ONTARIOIMO
user DELLOWM
Home

Figure 4-8: Sample Main Page Display

MP – is the identifier for the current *market participant* chosen for the session.

User – is the User identifier for the currently logged on user.

Date/Time – is the date and time provided by the web server. It is updated every minute.

The Energy Market GUI Main page also has several controls listed in a drop down menu. Which controls you see, will depend on your access authority. The only one that is relevant in the Portal for the Energy Market GUI is the Workspace selection.

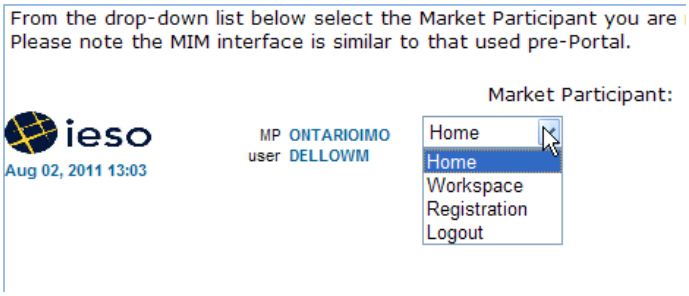

Figure 4-9: Typical Main Page Drop Down Menu

Home – returns the user to the Home (main) page from the Workspace. The user if applicable may choose a different Market Participant in the Market Participant dropdown selection list and then go back into the Workspace

Workspace – takes the user to the Bid workspace where *bids* and *offers* may be entered, cancelled, updated.

Logout – this is no longer relevant in the Portal for the Energy Market GUI

Metering / Registration – these are not relevant in the Portal for the Energy Market GUI

4.3 Market Status Display

The Market Status Display popup window shows the user the status of both the Financial and Physical Markets. It is updated whenever there is a change in any of the market statuses.

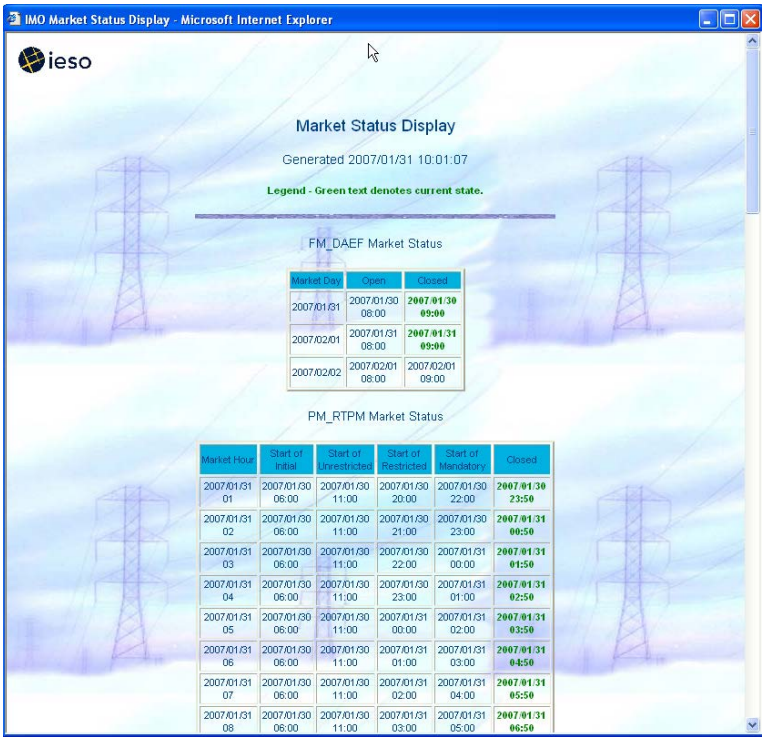

Figure 4-10: Typical Market Status Display

FM_DAEF Market Status

- Market Date (d, d+1 and d+2)
- Market Open Date/Time
- Market Close Date/Time

PM_RTPM Market Status

- Market Date/Hour (YYYY/MM/DD HH)
- Initial Window Open Date/Time
- Unrestricted Window Open Date/Time
- Restricted Window Open Date/Time
- Mandatory Window Open Date/Time

- Market Close Open Date/Time

Note: Green text denotes current market window state.

4.4 System Messages Display

The System Messages Display popup window is the primary link between the *Market Participant* and the *IESO*.

From this screen, the *Market Participant* will be notified of various system events. Some of these notifications are generated automatically and others are manually sent by the *IESO* such as Market Suspension, re-activation, or bid approval/rejection.

There are three kinds of system messages:

1. *Normal*: These are messages displayed in **Green**.
2. *Urgent*: These messages are displayed in **Blue**.
3. *Emergency*: These messages are displayed in **Red**.

Users MUST acknowledge receipt of both the Urgent and Emergency system messages. Not doing so will prevent the user from accessing any controls on the main web page. If the web page 'freezes up', the user experiencing this must first check the System Message Display for any outstanding messages before attempting to determine if it is another issue.

The acknowledgement of an Emergency message by a user is logged. It is the responsibility of the appropriate *Market Participant* user of the Energy Market GUI to acknowledge an Emergency Message as quickly as possible.

4.4.1 DACP Notification Messages

DACP notification messages are presented through the System Messages Display. As with all other system messages, DACP notification messages can have a status of *Normal*, *Urgent*, or *Emergency*. A listing of DACP notification messages follows:

DACP Notification A: Initial Results are delayed. Expect Results by HH:MM. EELR resubmission window extended until HH:MM; EELR Results will also be delayed.
DACP Notification B: Initial Results are delayed. Time for Results is yet to be determined. EELR Results will also be delayed.
DACP Notification C: The Initial results are invalid and have been inadvertently published. The Program will be rerun. Expect Results by HH:MM. EELR resubmission window extended until HH:MM. EELR Results will also be delayed.
DACP Notification D: The Initial results are invalid and have been inadvertently published. The Program will be rerun. Time for Results is yet to be determined; EELR Results will also be delayed.

DACP Notification E: Expect Initial Results by HH:MM. EELR resubmission window extended until HH:MM.
DACP Notification F: Expect Initial Results by HH:MM. There will be no EELR Optimization today.
DACP Notification G: EELR Optimization Results delayed until HH:MM.
DACP Notification H: EELR Optimization Results delayed. Time for Results is yet to be determined.
DACP Notification I: Expect EELR Optimization Results by HH:MM.
DACP Notification J: There will be no EELR Optimization today.
DACP Notification K: An additional DACP run has been scheduled due to [rerun criterion]; Expect results by HH:MM.
DACP Notification L: The EELR Optimization results are invalid and have been inadvertently published. The program will be rerun; Expect Results by HH:MM.
DACP Notification M: The EELR Optimization results are invalid and have been inadvertently published. The program will not be rerun; the Day-Ahead Commitment Process has failed for trade date YYYY/MM/DD.
DACP Notification N: Invalid Results have inadvertently been published. The program will not be rerun. The Day-Ahead Commitment Process has failed for trade date YYYY/MM/DD.
DACP Notification O: The Day-Ahead Commitment Process has failed for trade date YYYY/MM/DD. (Commitment will be as per Pre-dispatch; No DA-PCGs or DA-IOGs will apply.) DACP will resume for trade date YYYY/MM/DD.
DACP Notification P: Commitments reports are delayed. Commitments will not be reflected in pre-dispatch until further notice. We will issue a notification when Commitments reports are available.
DACP Notification Q: Commitments reports are now available. Commitments will be reflected in the next pre-dispatch.
DACP Notification R: The tolerance value used to validate DGD MLP submissions has been updated to ###%, and will be effective as of 23:59 YYYY/MM/DD.
DACP Notification S: The tolerance value used to validate DGD MGBRT submissions has been updated to ###%, and will be effective as of 23:59 YYYY/MM/DD.
DACP Notification T: The over midnight NISL setting in the DACE has been changed to use a bound limit. Previous use of an unbound limit has contributed to NISL issues. The bound limit will be effective as of YYYY/MM/DD.

Table 1: DACP Notification Messages

4.4.2 Re-activation of Market Status and System Messages Windows

The System Messages Display may be minimized, but should never be closed. If either of the two windows is inadvertently closed, *or if the System Messages windows stops updating automatically*, they can be re-activated through the following method.

Navigate to the Energy Market GUI Main page and place the mouse cursor directly to the right of the IESO Logo near the MP Name and User name in the white screen area. Then use the right mouse-button and chose the Refresh selection and then choose the 'Retry ' Option to the IE prompt. This will cause the Market Status Display and System Message Display windows to re-initialize and actively start showing information again.

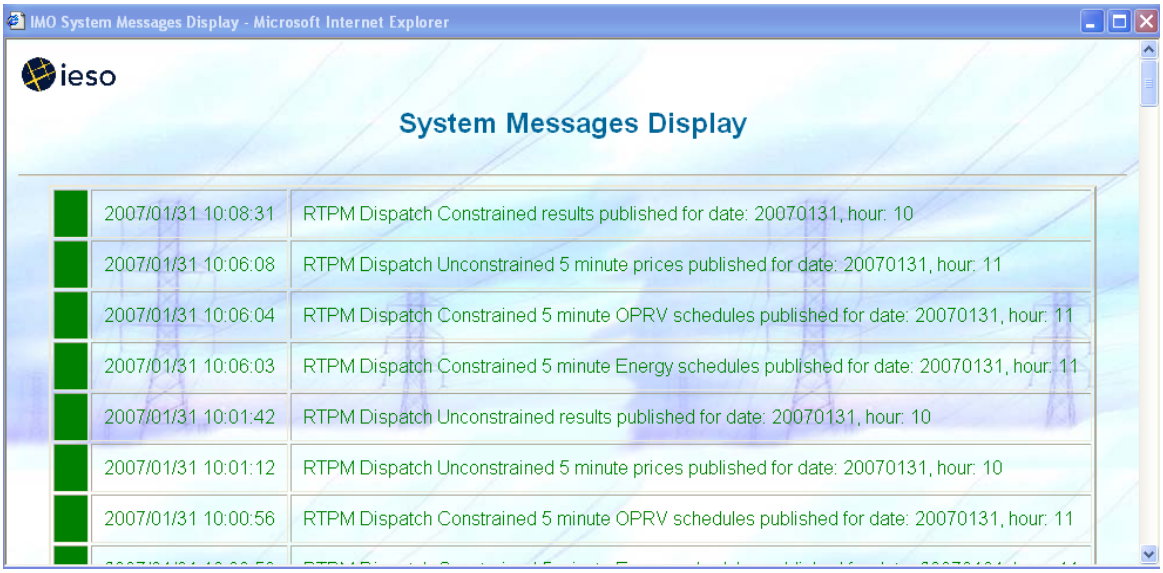
IMO System Messages Display - Microsoft Internet Explorer
ieso
System Messages Display
2007/01/31 10:08:31
RTPM Dispatch Constrained results published for date: 20070131, hour: 10
2007/01/31 10:06:08
RTPM Dispatch Unconstrained 5 minute prices published for date: 20070131, hour: 11
2007/01/31 10:06:04
RTPM Dispatch Constrained 5 minute OPRV schedules published for date: 20070131, hour: 11
2007/01/31 10:06:03
RTPM Dispatch Constrained 5 minute Energy schedules published for date: 20070131, hour: 11
2007/01/31 10:01:42
RTPM Dispatch Unconstrained results published for date: 20070131, hour: 10
2007/01/31 10:01:12
RTPM Dispatch Unconstrained 5 minute prices published for date: 20070131, hour: 10
2007/01/31 10:00:56
RTPM Dispatch Constrained 5 minute OPRV schedules published for date: 20070131, hour: 11

Figure 4-11: Typical System Messages Display

4.5 Energy Market GUI Work Space Display

The Energy Market GUI Work Space is the screen used to either:

- Submit Physical or Financial Bids or Offers using either file templates, or HTML Web submission

or

- Retrieve Physical or Financial Bids or Offers into the web as HTML pages or to raw files downloaded to the client.

The term *download* is used when any information is retrieved from the Market Information Management (MIM) database.

The term *upload* is used when any information is submitted to the MIM database.

Only a single bid or offer can only be downloaded in HTML format at any one time. Multiple *bids* and *offers* or summaries can only be downloaded to files. This is due to the Energy Market GUI only being able to render one HTML page at a time within the Portal. This functionality has not been altered from the original MPI.

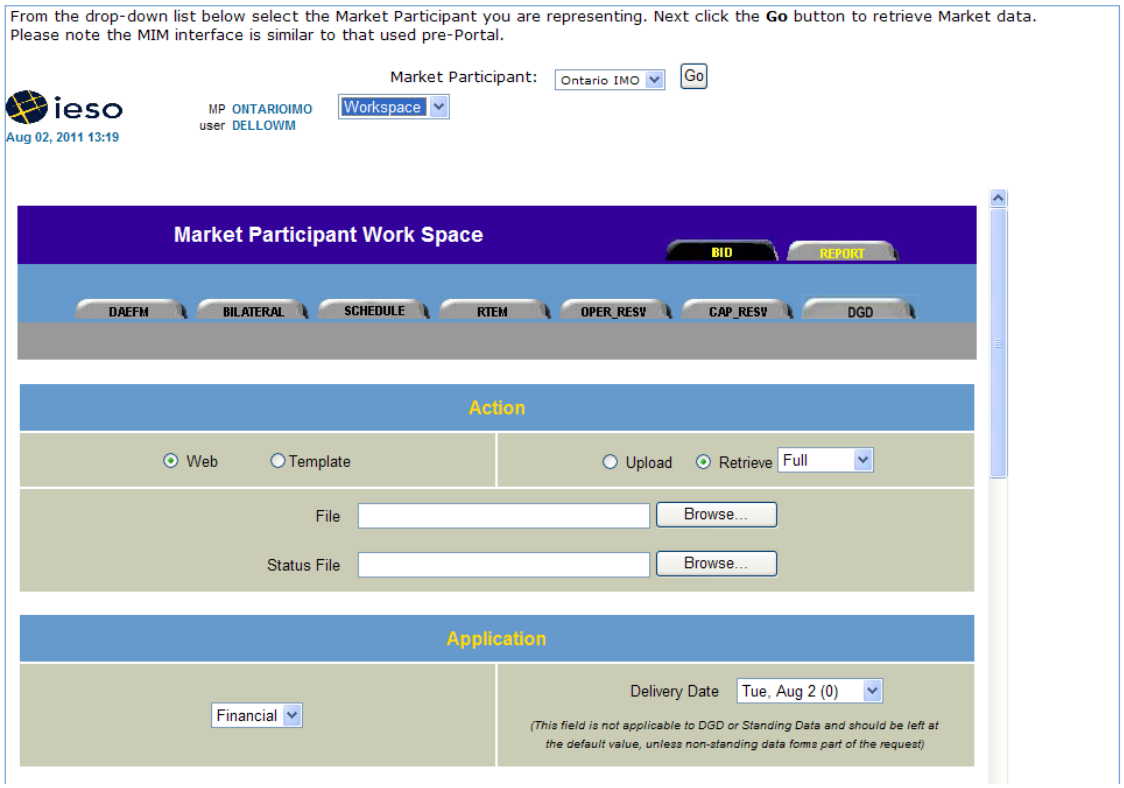

Figure 4-12: Energy Market GUI Work Space Display

Energy Market GUI Workspace Screen Access

The Energy Market GUI Workspace is split into several sections that enable easy navigation.

There are two main screens that can be accessed using tabs. These tabs are

BID – that displays the Energy Market GUI Work Space

REPORT – that displays the Report Work Space. The Report Work Space is covered later in this document.

Figure 4-13: Work Space Display Main Tabs

4.5.1 Energy Market GUI Market Access

The market access tabs on the Energy Market GUI Work Space display screens where HTML *bids* and *offers* can be submitted. Tabs are displayed depending on the user's access authorization. The function of each of the possible tabs is described below.

Figure 4-14: Energy Market GUI Work Space Market Access Tabs

DAEFM – provides access to the Day Ahead Energy Financial Market (DAEFM) data submission form.

BILATERAL – provides access to the Bilateral Contract Data submission form.

SCHEDULE – provides access to the Schedule Market data submission form.

RTEM – provides access to the *Real Time Energy Market* data submission form.

OPER_RESV – provides access to the *Operating Reserve Market* data submission form.

CAP_RESV – provides access to the *Capacity Reserve Market* data submission form.

DGD – provides access to the *Daily Generator Data* submission form.

Energy Market GUI Work Space Sections

The Energy Market GUI Work Space screen has several sections. They are:

- Action
- Application
- Hours
- Financial Market – DAEFM
- Physical Market

4.5.2 Action Section

The *Action* section is used to upload or retrieve data in HTML or file template format.

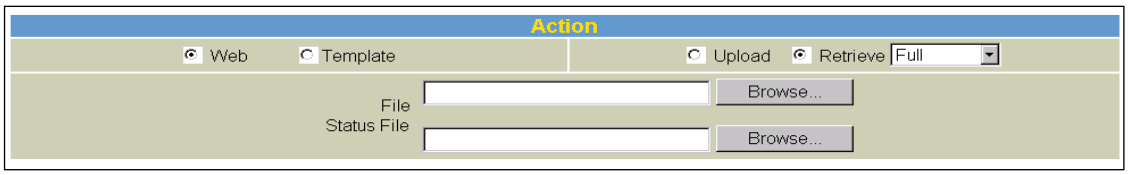

Figure 4-15: Energy Market GUI Work Space Action Section

The controls are radio buttons, which means that the selection can either be:

- *Web* or *Template*
- *Upload* or *Retrieve*

  The *Summary* drop down box to the right of the *Retrieve* radio button is used for download only.

Web – data will be uploaded from or retrieved to the web (HTML format)

Template – data will be uploaded from or retrieved to a file.

Upload – data will be uploaded to the MIM database.

Retrieve – data will be retrieved from the MIM database.

Summary – has two options in the drop down list:

- *Summary* – is used for *Retrieve* only. When selected, only summary information will be retrieved. Summary data can be downloaded to either *Web* or *Template*.
- *Full* – is used for *Retrieve* only. When selected, full information will be retrieved. A *Full Retrieve* for more than one Bid or Offer can only be to a *Template*.

File – is used to select a destination for a file when Template is selected for either Upload or Retrieve.

Browse – displays a standard Windows file dialog that allows you to easily locate the required file.

Status File – is used for *Template Upload* only. It is the location of the status file for the data submission action. If no file is specified, the *Path* and *Filename* of the destination file is used with an additional extension of *.err*.

4.5.3 Application Section

The Application section determines which Market bid/offer data will be retrieved from and for the date specified in *Delivery Date*.

Figure 4-16: Energy Market GUI Work Space Application Section

Market Type – There are three options to select from:

- *Financial* - only Financial Market data will be retrieved.
- *Physical* - only Physical Market data will be retrieved.
- *Both* – is used only in conjunction with the *Summary Action* type. When selected, data from both Financial and Physical Markets will be retrieved.

Delivery Date – is used to specify which delivery date is to be used to retrieve data.

4.5.4 Hour Section

The Hour section allows the user to select the hours that they wish to retrieve.

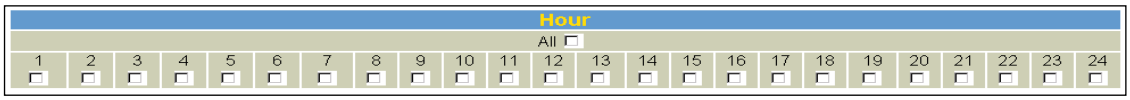

Figure 4-17: Energy Market GUI Work Space Hour Section

All – When checked, automatically checks all 24 individual hourly checkboxes. When unchecked, automatically un-checks all 24 individual hourly checkboxes.

Hour 1-24 – When checked, only data for that hour is retrieved. Multiple boxes may be checked to retrieve data for multiple hours.

4.5.5 Financial Market Section

The Financial Market (FM) section is used to specify what FM data is to be retrieved.

Note: This section is currently not used.

Figure 4-18: Energy Market GUI Work Space Financial Market Section

4.5.6 Physical Market Section

The Physical Market (PM) section is used to specify what PM data is to be retrieved. (To submit a bid in a particular market, use the appropriate tab.) The window is split into the six Physical Market sub types. These will be covered individually in detail.

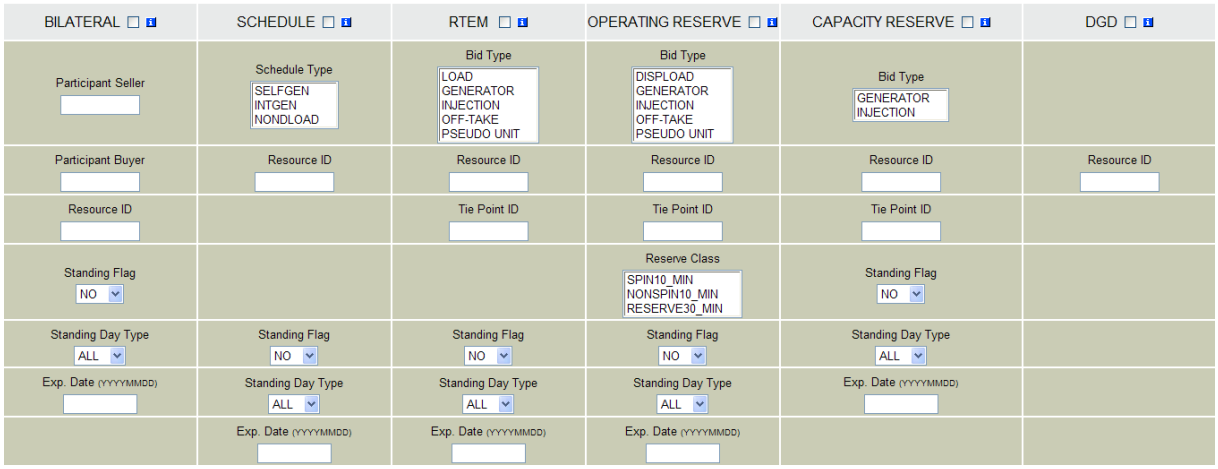

Figure 4-19: Energy Market GUI Work Space Physical Market Section

Common Buttons and Fields

For all sub types, several buttons or fields perform the same function in each type.

Information Button

Information (i) - When selected, a separate browser window is displayed that shows the available resources that belong to the Selling *Market Participant* and can be used (if applicable) in the *Resource* field.

SPBCD Standing Flag

Standing Flag - indicates whether the user is choosing to download a Standing *Physical Bilateral Contract Data* (SPBCD) or a *Physical Bilateral Contract Data* (PBCD). Valid values are:

- *NO* - Only PBCD's will be retrieved.
- *YES* - Only Standing SPBCD's will be retrieved.

SPBCD Standing Day Type

Standing Day Type - This field is used only when the *Standing SPBCD Flag* is *YES*. A SPBCD must have a day type. It is used to determine which bilateral contract should be used for the specified day. Day types can be as follows:

- *ALL* SPBCD is used every day
- *MON* SPBCD is used only on Mondays
- *TUE* SPBCD is used only on Tuesdays
- *WED* SPBCD is used only on Wednesdays
- *THU* SPBCD is used only on Thursdays
- *FRI* SPBCD is used only on Fridays
- *SAT* SPBCD is used only on Saturdays
- *SUN* SPBCD is used only on Sundays

SPBCD Expiry Date

Expiry Date - is used only when the *Standing SPBCD Flag* is *YES*. If known, SPBCD with a common expiry date can be retrieved.

Standing Bid/Offer Flag

Standing Flag - indicates whether the user is choosing to download a Standing Bid or a Current Bid. Valid values are:

- *NO* - Only current *bids* and/or *offers* will be retrieved.
- *YES* - Only standing *bids* and/or *offers* will be retrieved.

Standing Bid/Offer Day Type

Standing Day Type - This field is used only when the *Standing Flag* entry is *YES*. A Standing Bid must have a day type. It is used to determine which bid should be used for the specified day. Day types can be as follows:

- *ALL* Bid/Offer is used every day
- *MON* Bid/Offer is used only on Mondays
- *TUE* Bid/Offer is used only on Tuesdays
- *WED* Bid/Offer is used only on Wednesdays
- *THU* Bid/Offer is used only on Thursdays
- *FRI* Bid/Offer is used only on Fridays
- *SAT* Bid/Offer is used only on Saturdays
- *SUN* Bid/Offer is used only on Sundays

Standing Bid/Offer Expiry Date

Expiry Date - is used only when the *Standing Flag* entry is *YES*. If known, Standing Bids with a common expiry date can be retrieved.

Bilateral Market Subtype

The Bilateral Contract Market subtype allows *Market Participants* to trade among one another for the sale and purchase of power. Specific settlement charges can be assigned to either the buyer or seller depending on the individual contracts that have been drawn up.

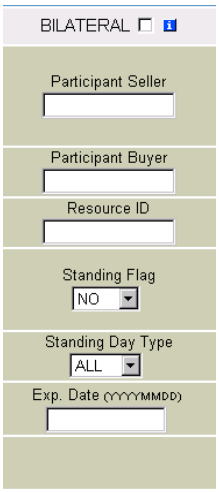

Figure 4-20: Bilateral Market Subtype Section

BILATERAL - is used to retrieve Bilateral Contract Market Data.

Participant Seller - is completed with the short name of the *Participant Seller*.

Participant Buyer – is completed with the short name of the *Participant Buyer*.

Resource – is completed with the name of the resource used as the point of settlement (it is a *TEXT* field).

Not all the above information is required to yield a result. Depending on how much information is supplied, more than one Bilateral Contract may be retrieved. For example, if only the BILATERAL check box is selected, all Bilateral Contracts for the logged in *participant* and user will be retrieved. Multiple Bilateral Contracts can only be retrieved to file (*template).*

Schedule Market Subtype

Schedules are used by *Participants* who own/operate non-dispatchable units. The schedule is submitted to the market to declare a specific MW value and *Market Clearing Price* that that unit will reduce its power generation/consumption by if the *Market Clearing Price* reaches that specified value.

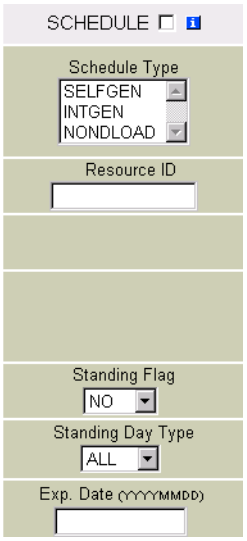

Figure 4-21: Schedule Market Subtype Section

SCHEDULE – Schedule market data will be retrieved.

Schedule Type – The user can select one of the following resource types:

- *SELFGEN* Self Scheduling Generator
- *INTGEN* *Intermittent Generator*
- *NONDLOAD* *Non-Dispatchable Load*

When any of these schedule type items are selected, resources of that specific resource type will be retrieved. Multiple selections are possible.

However if multiple schedule types are selected, download is only possible to a file.

Resource ID – is completed with a resource name for the resource type selected in the *Schedule Type* field.

Not all the above information is required to yield a result. Depending on how much information is supplied, more than one Schedule may be retrieved. For example, if only the *SCHEDULE* check box is selected, all schedules for the logged in *participant* and user shall be retrieved. Multiple Schedules may only be retrieved to file.

RTEM Market Subtype

In the *Real-Time Energy Market*, *offers* for electricity are submitted by generators for each hour of the day. Every five minutes, the *IESO* balances the *demand* for electricity with *offers* from generators and calculates a *Market Clearing Price* (or spot *market price*). This price will be uniform across Ontario, and it determines what generators are paid for wholesale electricity. *Consumers* are charged the weighted hourly average of the five-minute prices.

Beginning one day ahead, the *IESO* receives *offers* to supply electric power from generators. The generators specify an amount of power and its price for each hour of the day. Offers can be revised without limit up to four hours ahead of the market hour and then by a maximum of ten percent or an absolute value as determined by the *IESO* up to two hours ahead of the market hour.

Consumers of electricity, or loads, can submit *bids* for electric power. These *bids* specify maximum prices that the loads are willing to pay for amounts of electricity for each hour of the day. When the cost of electricity exceeds the price in their *bids*, the customers agree that parts of their loads will be curtailed, or dispatched off, by the amounts specified in their *bids*.

On market day, conceptually, the *IESO* stacks these *offers* and *bids* in order of rising price, and then begins accepting them until the *demand* for electric power has been met across the province. This process determines the *Market Clearing Price.*

The *IESO* continuously monitors Ontario's total *demand* for electricity and every five minutes, it determines a new *Market Clearing Price* to be paid to generators. The weighted hourly average of these five-minute prices is charged to wholesale *consumers* and *distributors*.

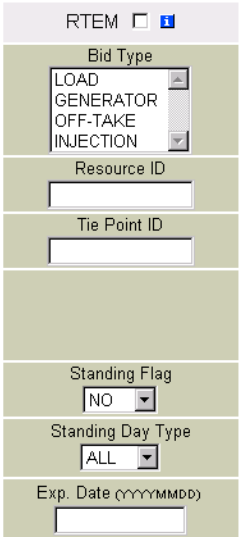

Figure 4-22: RTEM Market Subtype Section

RTEM – is used to retrieve RTEM Market data.

Bid Type – is used to select one of the following resource types:

- *GENERATOR* Generation Resources
- *LOAD* Dispatchable Load Resources
- *INJECTION* Injection Resources
- *OFF-TAKE* Off-take Resource

When any of these items are selected, resources of that specific resource type will be retrieved. Multiple selections are possible using standard Windows' controls. However that if multiple types are selected, download is then only possible to a file.

Resource ID – is completed with a resource name for the entry in the *Bid Type* field.

Tie Point ID – can be used in conjunction with resource types that are either Injection or Offtake.

NERC Tag ID – can be used in conjunction with resource types that are either Injection or Offtake. (Remove this statement) *NERC Tag* is used on bid submission only not as a choice in retrieval.)

Not all the above information is required to yield a result. Depending on how much information is supplied, more than one Energy Bid or Offer may be retrieved. For example, if only the RTEM check box is selected, all Energy Bids and Offers for the logged in *participant* and user will be retrieved. Multiple Energy Bids and Offers may only be retrieved to file.

Operating Reserve (OR) Market Subtype

The *IESO* needs a reserve of electric power that it can call upon on short notice for short periods to ensure *reliability* in the event of equipment failures. Wholesale sellers, *generators*, and *consumers* (called dispatchable loads) can contribute electricity for this purpose in the *Operating Reserve Market*. Generators offer to supply extra power at short notice when needed, and dispatchable loads agree to cut back part of their *demand*.

The *IESO* will have three separate *operating reserve markets*: 10-minute synchronized reserve, 10-minute non-synchronized reserve, and 30-minute non-synchronized reserve. *Bids* and *offers* in these markets must be able to be dispatched within the indicated times. Generators participate in these *operating reserve markets* by submitting *offers* that specify amounts of power they can supply for at least one hour and the price for standing by. Loads participate by making *bids* that specify amounts of power and prices at which they are willing to cut their consumption for at least one hour.

For each of the three *operating reserve markets*, the *IESO* stacks the *bids* and *offers* in order of increasing price and then selects resources based on an optimization process. It also forecasts the level of *operating reserve* required, and accepts *bids* and *offers* in the *Operating Reserve Market* to achieve the desired level. This level determines a *market clearing price* for *operating reserve** that all accepted *offers* and *bids* are paid, regardless of whether the reserve is actually used. The accepted *offers* and *bids* are essentially stand-by payments.

If an event occurs that requires power from the *Operating Reserve Market*, the *IESO* dispatches the least cost *operating reserve* based on the *energy* prices offered and bid into the *Energy* Market. The dispatched generators and loads are paid according to that lowest *energy* cost.

Note: In practice, the *market-clearing price* for *operating reserve* will be determined jointly with the *real-time energy market* clearing process.

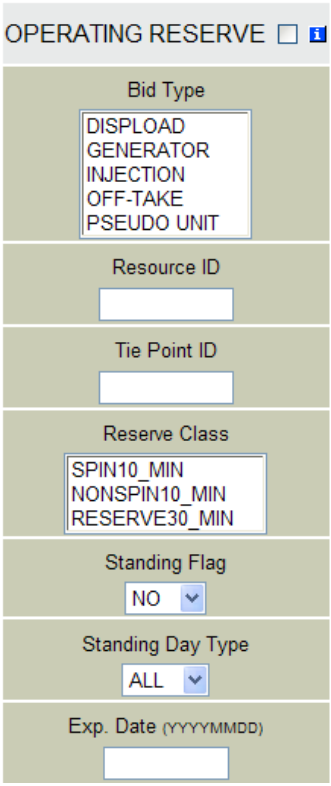

Figure 4-23: Operating Reserve (OR) Market Subtype Section

Operating Reserve – retrieves the OR Market Data..

Bid Type - The user can select one of the following resource types:

- *GENERATOR* Generation Resources
- *DISPLOAD* Dispatchable Load Resources
- *INJECTION* Injection Resources
- *OFF-TAKE* Offtake Resource

When any of these items are selected, resources of that specific resource type will be retrieved. Multiple selections are possible using standard Windows' controls. If multiple types are selected, download is only possible to a file.

Resource ID – is completed with a resource name for the resource types entered in the *Bid Type* field.

Tie Point ID - The Tie Point ID may be used in conjunction with resource types that are either Injection or Offtake.

Reserve Class - The user can select one of the following reserve classes:

- *SPIN10_MIN* 10 Minute Spinning OR
- *NONSPIN10_MIN* 10 Minute Non Spinning OR
- *RESERVE30_MIN* 30 Minute OR

When any of these items are selected, resources of that specific resource type will be retrieved. Multiple selections are possible using standard windows controls.

If multiple types are selected, download is only possible to a file.

All the above information is not required to yield a result. Depending on how much information is supplied, more than one OR Bid or Offer may be retrieved.

For example, if only the *OPERATING RESERVE* check box is selected, all *Operating Reserve Bids* and *Offers* for the logged in *participant* and user will be retrieved. Multiple OR *Bids* and *Offers* can only be retrieved to file.

Capacity Reserve (CR) Market Subtype

Note: This subtype is currently not used.

Daily Generator Data (DGD) Market Subtype

This panel is used to retrieve Daily Generator Data (DGD) for not-quick-start dispatchable generators. This data includes Minimum Generation Block Run Time (MGBRT), Minimum Generation Block Down Time (MGBDT), Maximum Number of Starts per Day (MNSD), and Minimum Loading Point (MLP). There may be up to 4 MLPs for a given generator, if the generator is a Steam Turbine, with the number of MLPs corresponding to the number of associated Combustion Turbines.

To retrieve Daily Generator Data, submit the Resource ID of the generator (see Figure 4-):

Figure 4-24: Daily Generator Data (DGD) Market Subtype Section

4.6 HTML Bid Submission Forms

4.6.1 Introduction

Users can access the HTML Bid Submission forms by using the tabs at the top of the Energy Market GUI Work Space. These HTML forms allow the user to submit individual *bids* and *offers* for each market type to MIM (Market Information Management).

HTML results from queries submitted from the Energy Market GUI Work Space are also displayed in these HTML Bid Submission forms.

Each Bid Submission form is broken into 3 sections:

- *Bid Information*
- *Formulae*
- *Bid Data*

Bid Information – This section is the equivalent of the Bid Header and contains text fields pertaining to each of the Bid Header fields for that specific market type.

Formulae – This section enables the user to quickly enter multiple hours using the same information. The *Capacity Reserve* Bid Submission Form does not contain a Formulae section.

Bid Data – This section is the equivalent of the Bid Body and contains fields pertaining to each of the Bid Body fields for that specific market type.

There is one Bid Submission form for each of the six Market types:

- *DAEFM*
- *Bilateral*
- *Schedule*
- *RTEM*
- *Operating Reserve*
- *Capacity Reserve*

Standard Buttons and Fields

For all or some of these forms several fields or buttons perform the same function:

Information (i) - When selected, a separate browser window is displayed that shows the available resources that can be used in the Resource field (for Bilateral Contracts, only resources belonging to Selling *Market Participant* will be displayed).

Though Standing Bilateral Contract information is not shown here separately, it can also be applied from section 4.5.6 Physical Market.

Standing Flag - indicates whether the user is choosing to download a Standing Bid / SPBCD or a Current Bid / PBCD. Valid values are:

- *NO* - Only current / *offers* / / *PBCDs* will be retrieved.

- *YES* - Only standing *bids* / *offers/ SPBCDs* will be retrieved.

Standing Day Type - This field is used only when the *Standing Flag* entry is *YES*. A Standing Bid must have a day type. It is used to determine which bid should be used for the specified day. Day types can be as follows:

- *ALL* Bid/Offer/SPBCD is used every day
- *MON* Bid/Offer/SPBCD is used only on Mondays
- *TUE* Bid/Offer/SPBCD is used only on Tuesdays
- *WED* Bid/Offer/SPBCD is used only on Wednesdays
- *THU* Bid/Offer/SPBCD is used only on Thursdays
- *FRI* Bid/Offer/SPBCD is used only on Fridays
- *SAT* Bid/Offer/SPBCD is used only on Saturdays
- *SUN* Bid/Offer/SPBCD is used only on Sundays

Expiry Date - is used only when the *Standing Flag* entry is *YES*. Please note that the user should allow one day for the conversion of the expiry day. Thus, if the user wants the bid/SPBCD to be in effect until the day X, he must enter the expiry date = X – 1 (X minus one.)*Action* - can be one of the following values:

- *SUBMIT* Data is to be submitted to MIM as a new Bid/PBCD or as an Update to an existing bid/PBCD,

  OR

- *CANCEL* Data is to be cancelled in the MIM database.

Resource ID – is completed with a Resource Name for the resource types entered. This field is not on all screens.

Hour - indicates hours for which data will either be submitted or cancelled. The *All* check box allows you to check, or uncheck all hours.

4.6.2 DAEFM Bid Submission Form

Note: The Day Ahead Energy Forward Market is currently not available.

4.6.3 Bilateral Contract Data Submission Form

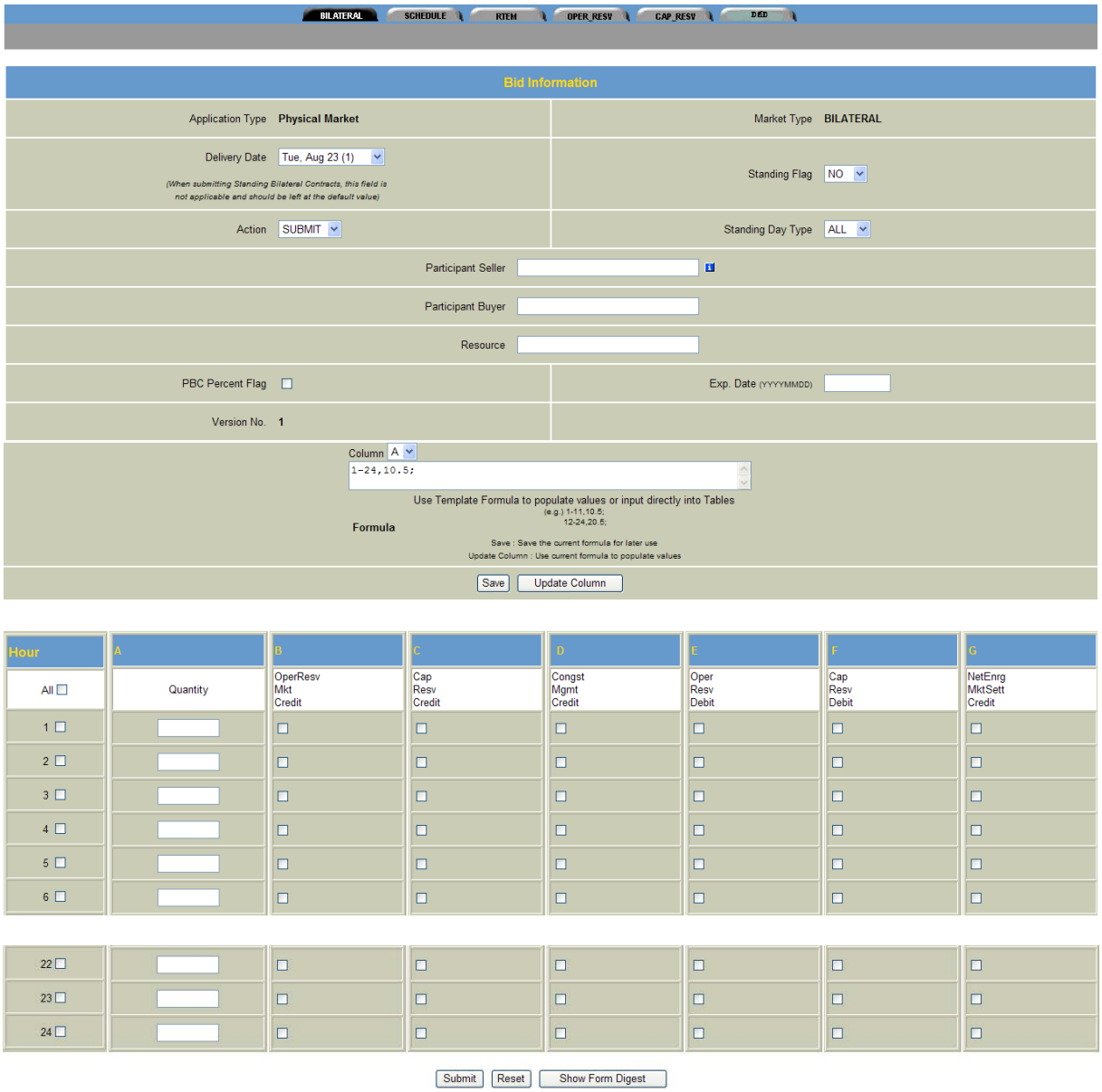

Figure 4-25 Sample Bilateral Contract Data Submission Form

(See section 4.5 for the definition of common fields not covered in this section.)

Participant Seller – is the Short Name of the Participant Seller.

Participant Buyer – is the Short Name of the Participant Buyer.

Resource - is the name of the Resource used as the Point of Settlement.

PBC Percent Flag - when this flag is checked, The Commercial Reconciliation System (CRS) will ignore all absolute PBCD quantities and will use 100% of the allocated metering quantities at the location identified by the *Delivery Point* ID. However, the user must still check the applicable hours and enter non-zero, positive values in the Quantity column. These values are strictly a placeholder and will be overwritten by the allocated metering quantities.

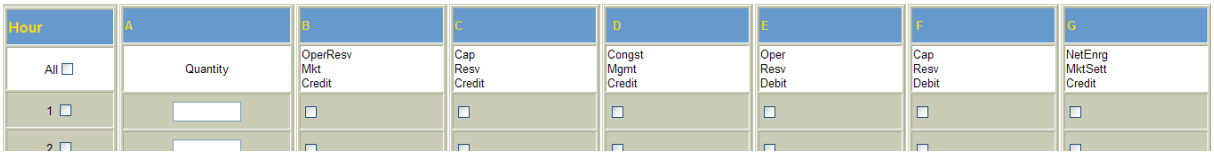

Figure 4-26: Bilateral Contract Data Submission Form Fields

(A) - Quantity indicates the amount of *energy* in MW allocated as a Bilateral Contract for that hour.

(B) - Operating Reserve Settlement Credit indicates that ORSC Uplift charges will be allocated to the *Participant Seller*. This is *optional*.

(C) - Capacity Reserve Settlement Credit indicates that CAPRSC Uplift charges will be allocated to the *Participant Seller*. This is *optional*.

(D) - Congestion Management Settlement Credit indicates that CMSC Uplift charges will be allocated to the *Participant Seller*. This is *optional.*

(E) - Operating Reserve Shortfall Settlement Debit indicates that ORSSD Uplift charges will be allocated to the *Participant Seller*. This is *optional*.

(F) - Capacity Reserve Shortfall Settlement Credit indicates that CRSSD charges will be allocated to the Participant Seller. This is optional.

(G) - Net Energy Market Settlement Credit indicates that NEMSC charges will be allocated to the *Participant Seller*. This is *optional*.

4.6.4 Schedule Bid Submission Form

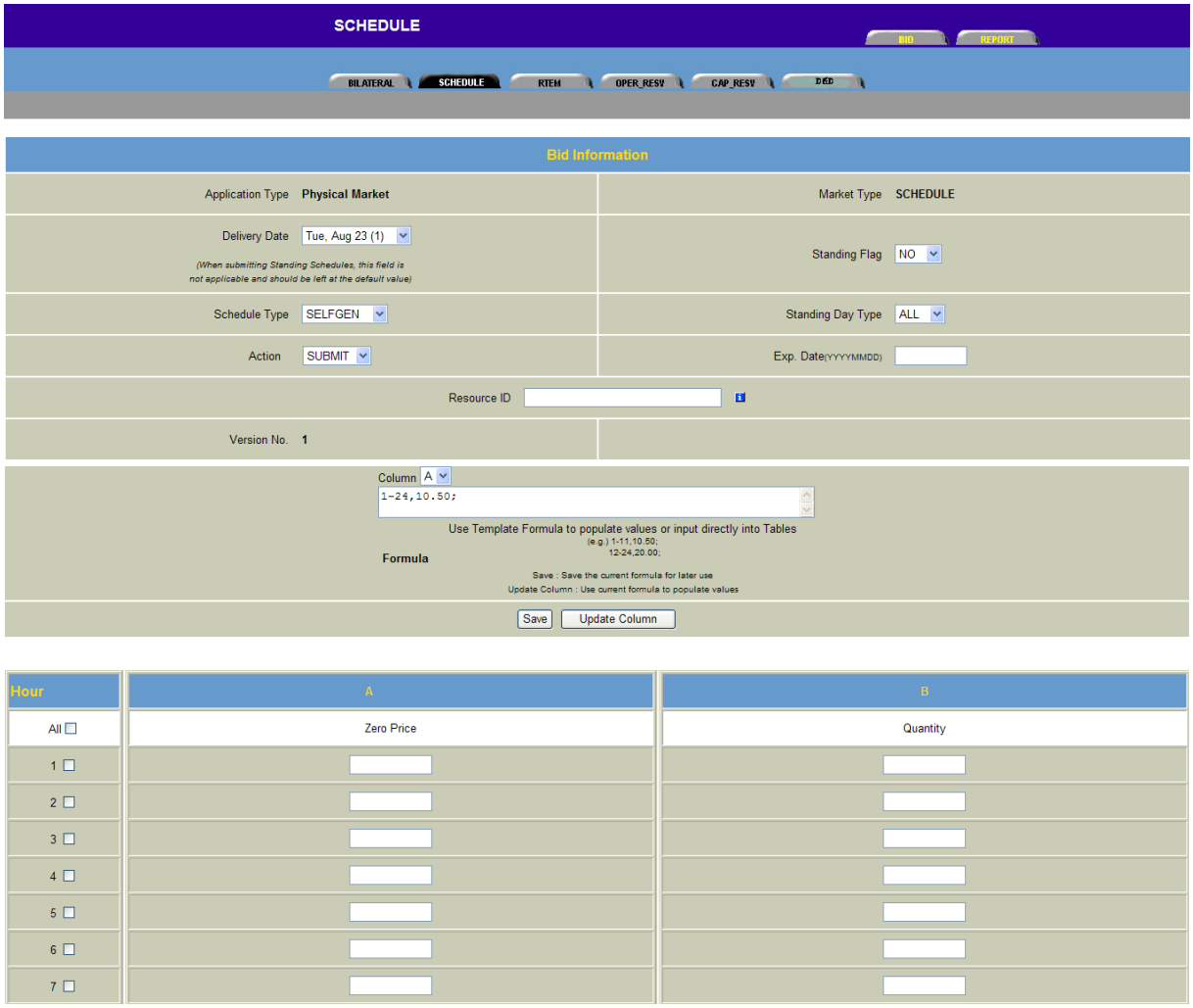

Figure 4-27: Sample Schedule Bid Submission Form

(See section 4.5 for the definition of common fields not covered in this section.)

Schedule Type – is used to select one of the following resource types:

- *SELFGEN* Self Scheduling Generator
- *INTGEN* *Intermittent Generator*
- *NONDLOAD* *Non-Dispatchable Load*

When any of these items are selected, resources of that specific resource type will be retrieved. Multiple selections are possible using standard windows controls. If multiple types are selected, download is only possible to a file.

(A) – Zero Price indicates the Price in $ that the Unit will reduce its *Energy* usage to zero.

(B) – Quantity indicates the Quantity in MW by which the Unit will reduce its energy.

4.6.5 RTEM Bid Submission Form

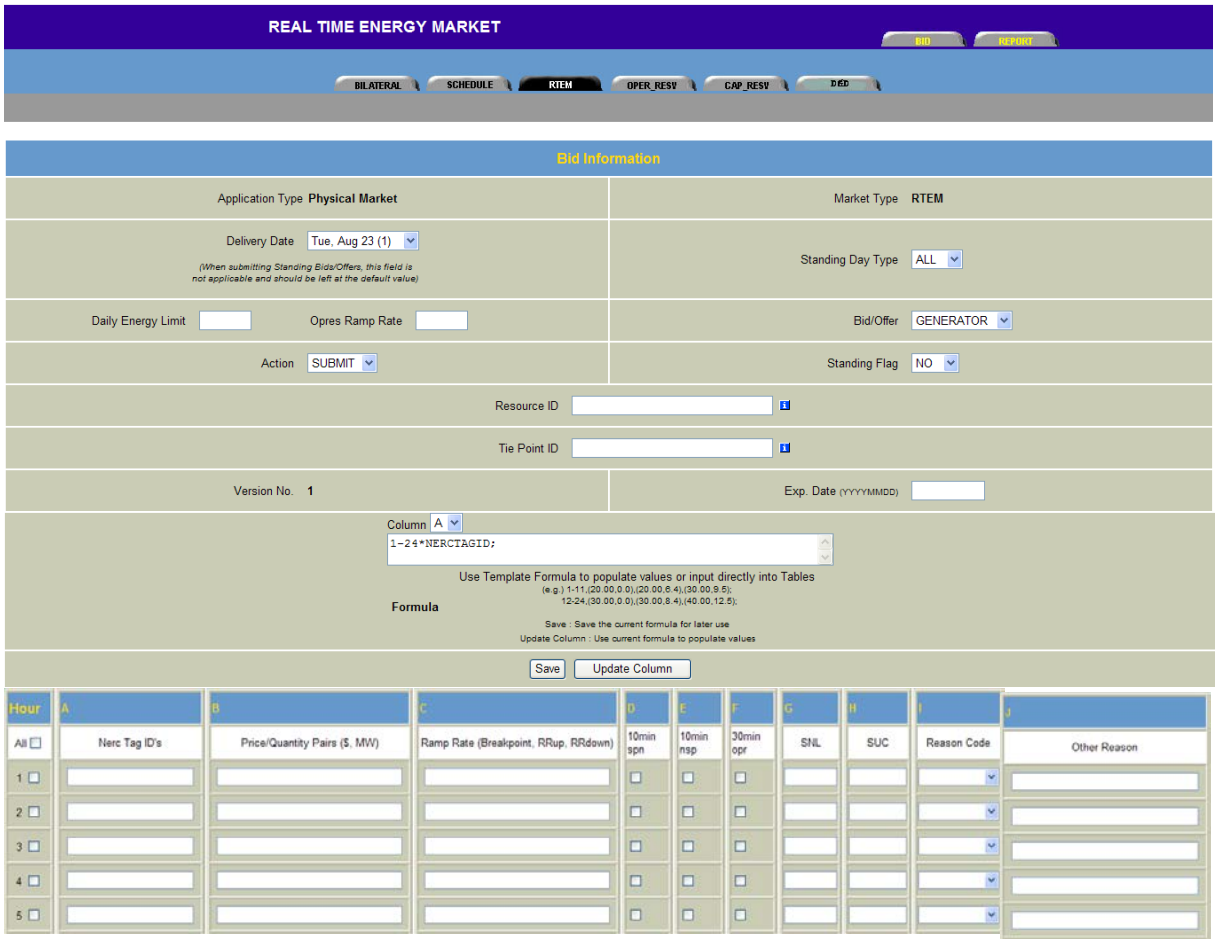

Figure 4-28: Sample RTEM Bid Submission Form

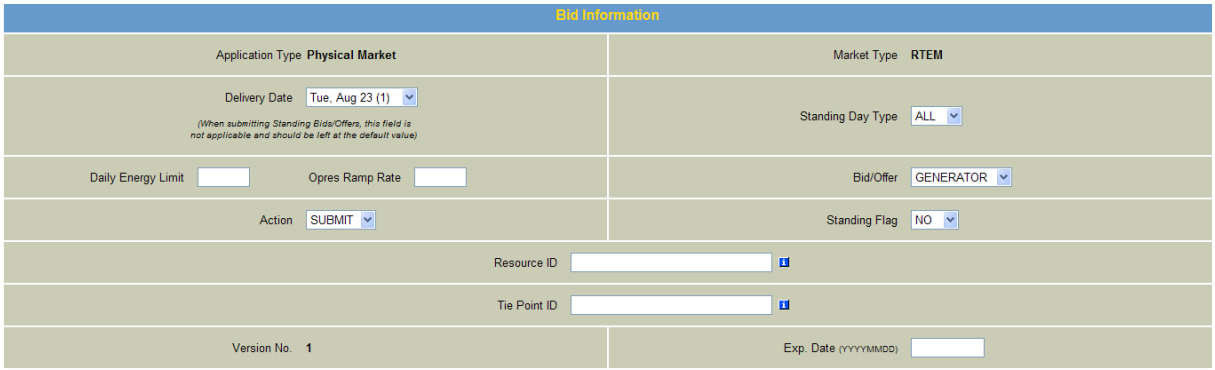
Bid Information
Application Type Physical Market
Market Type RTEM
Delivery Date Tue, Aug 23 (1)
(When submitting Standing Bids/Offers, this field is not applicable and should be left at the default value)
Standing Day Type ALL
Daily Energy Limit
Opres Ramp Rate
Bid/Offer GENERATOR
Action SUBMIT
Standing Flag NO
Resource ID
Tie Point ID
Version No. 1
Exp. Date (YYYYMMDD)

Figure 4-29: RTEM Bid Submission Form Header Details

(See section 4.5 for the definition of common fields not covered in this section.)

Daily Energy Limit – indicates the maximum *energy* limit for the *bid* or *offer*.

Operating Reserve Ramp Rate - indicates the ramp rate to be used if a corresponding *Operating Reserve Bid* is to be submitted.

Bid/Offer – is used to select one of the following resource types:

- *GENERATOR* Generation Resources
- *LOAD* Dispatchable Load Resources
- *INJECTION* Injection Resources
- *OFF-TAKE* Offtake Resource

Figure 4-30: RTEM Bid Submission Form Fields

Tie Point ID - can be used in conjunction with resource types that are either Injection or Offtake.

(A) - NERC Tag ID - is used in conjunction with resource types that are either Injection or Offtake

(B) - Price-quantity Pairs ($, MW) is where *Energy Bids* and *Offers* are entered.

(C) - Ramp Rate (Breakpoint, RRup, RRdown) is where the *Energy* Ramp Rates are entered.

(D) - 10 Min Spin. – This field is redundant.

(E) - 10 Min Non Spin. – This field is redundant.

(F) - 30 Min OR. – This field is redundant.

(G) - SNL. – Speed No-Load Cost, required if participating in EDAC.

(H) – SUC, - Start-Up Cost, required if participating in EDAC.

(I) - Reason Code is used to supply a valid reason code if the *Bid*/*Offer* is submitted within the 4-2 hour mandatory and restricted window. It is also required if the Bid/Offer is submitted during the DACP window of 11:00 to 15:00 and is subject to operator approval (Please see DACP description, Section 5.2.3) These reason codes are as follows:

- FO
- FD
- ERPO
- LRPO
- OTHER

If the OTHER Reason Code is selected, a Free Text Reason must be entered in *Other Reasons*.

(J) - Other Reason is used to provide a valid reason if the *bid*/*offer* is submitted in the 4-2 hour restricted window and the *Reason Code* (*F*) is *OTHER*.

4.6.6 Operating Reserve Bid Submission Form

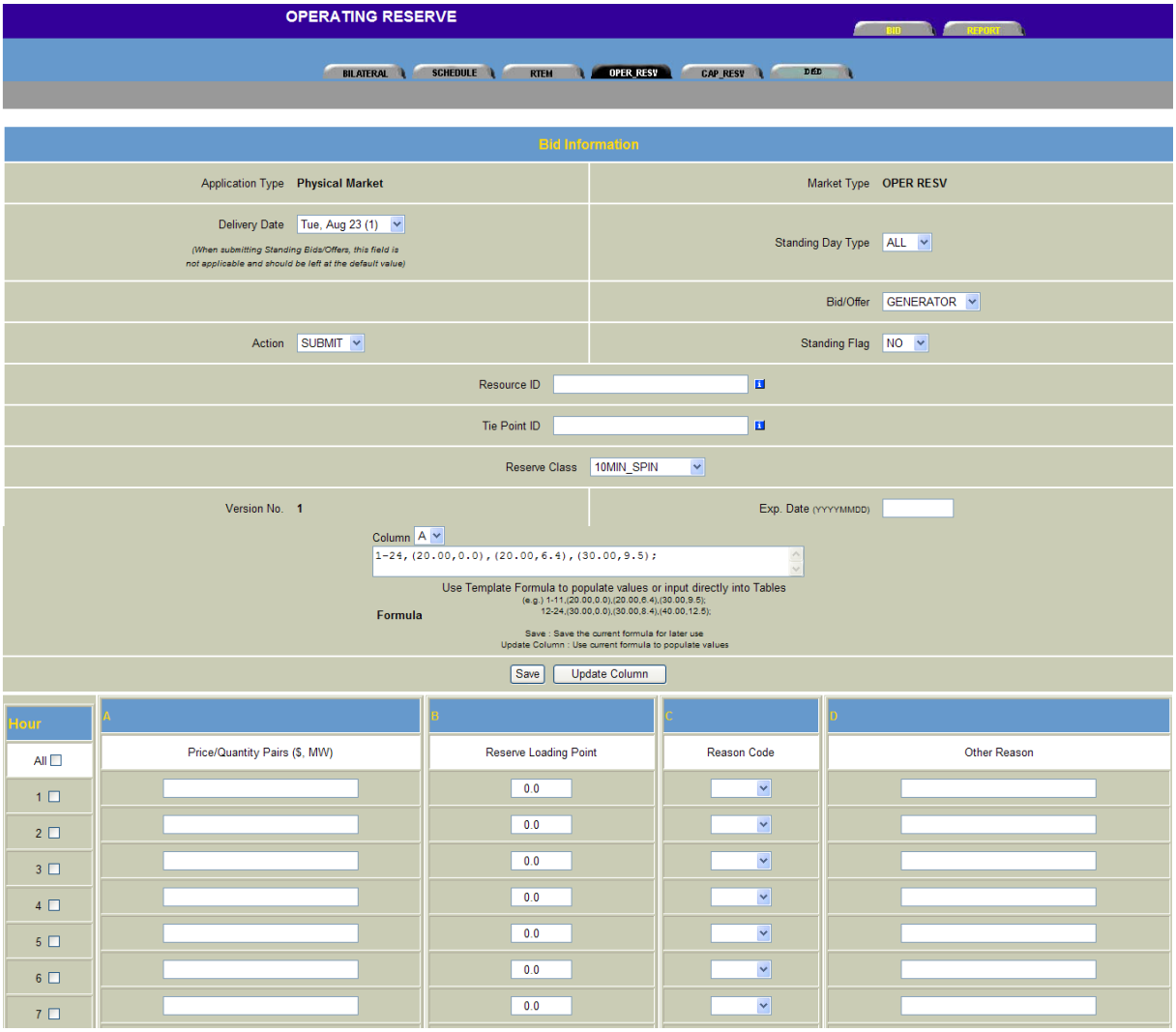

Figure 4-31: Sample Operating Reserve Bid Submission Form

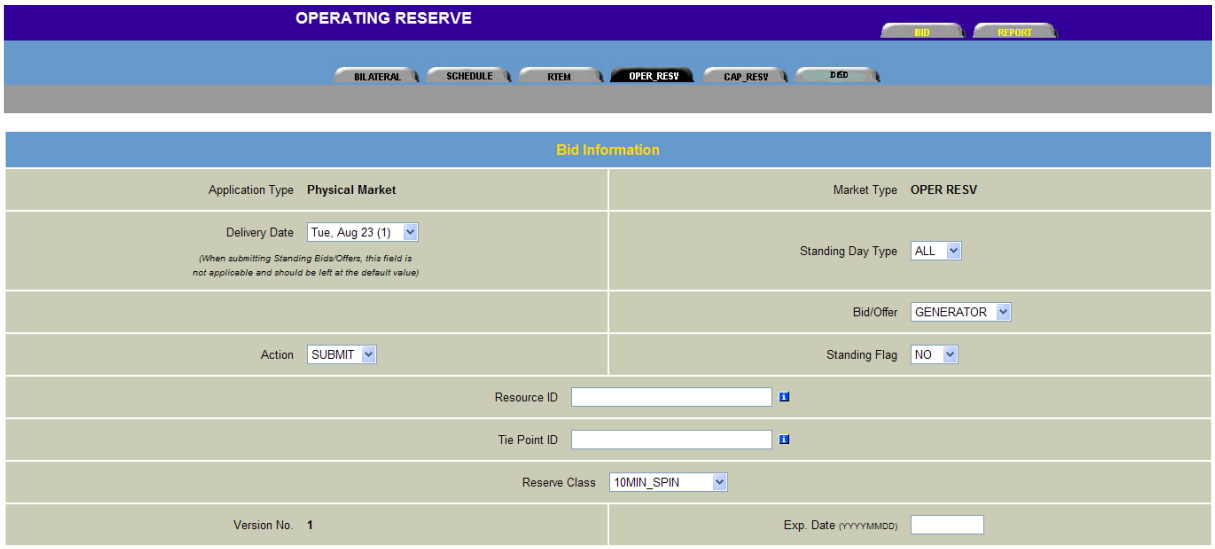

Figure 4-32: Operating Reserve Bid Submission Form Header Details

(See section 4.5 for the definition of common fields not covered in this section.)

Bid/Offer - The user can submit/cancel one of the following resource types:

- *GENERATOR* Generation Resources
- *DISPLOAD* Dispatchable Load Resources
- *INJECTION* Injection Resources
- *OFF-TAKE* Off-take Resource

Tie Point ID – can be used in conjunction with resource types that are either Injection or Offtake.

Reserve Class - The user can submit/cancel one of the following reserve classes:

- *SPIN10_MIN* 10 Minute Spinning OR
- *NONSPIN10_MIN* 10 Minute Non Spinning OR
- *RESERVE30_MIN* 30 Minute OR

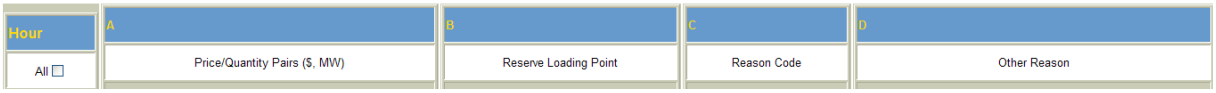

Figure 4-33: Operating Reserve Bid Submission Fields

(A) - Price-quantity Pairs ($, MW) is where *Energy Bids* and *Offers* are entered.

(B) - Reserve Loading Point indicates the Reserve Loading Point for that particular hour of the *Operating Reserve Bid* or *Offer.*

(C) - Reason Code is used to supply a valid reason code if the *Bid/Offer* is submitted within the 4-2 hour restricted window. It is also required if the Bid/Offer is submitted during the DACP window of 11:00 to 15:00 and is subject to operator approval (Please see DACP description, Section 5.2.3)

The reason codes are:

- FO
- FD
- ERPO
- LRPO
- OTHER

If OTHER Reason Code is selected, a free text reason must be entered in *Other Reasons*.

(D) - Other Reason is used to provide a valid reason if the bid/offer is submitted in the 4-2 hour restricted window and the *Reason Code* (*F*) is *OTHER*.

4.6.7 Capacity Reserve Bid Submission Form

Note: The *Capacity Reserve Market* is currently not available.

4.6.8 Daily Generator Data (DGD) Submission Form

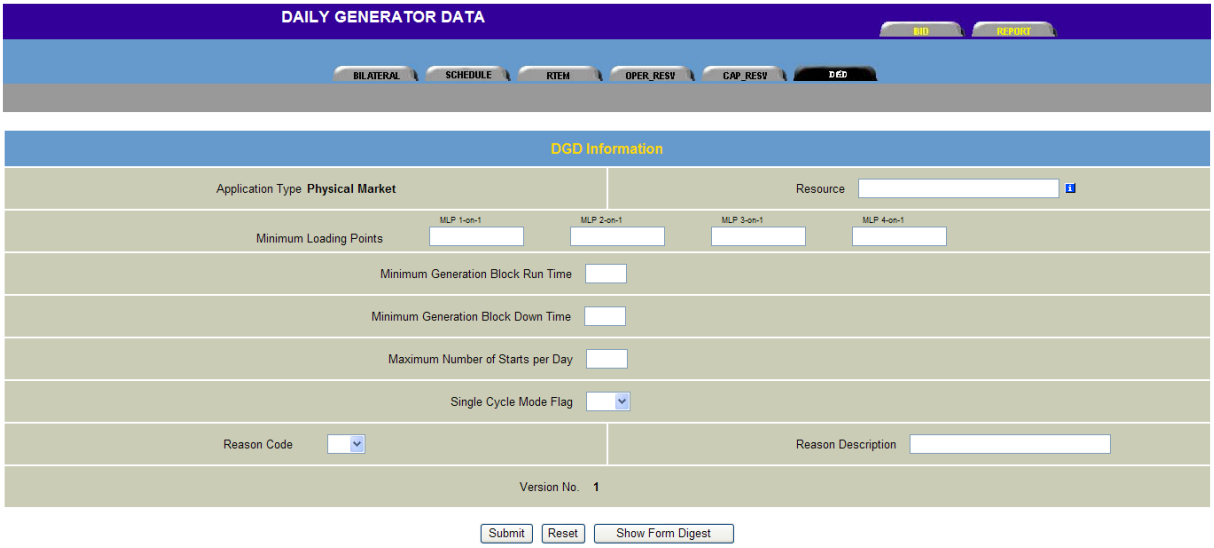

Figure 4-34: Sample Daily Generator Data (DGD) Submission Form

(See section 4.5 for the definition of common fields not covered in this section.)

Daily Generator Data (DGD) refers to daily (as opposed to hourly, offer type quantities) that are associated with not-quick-start dispatchable generators.

Minimum Loading Points:

The number of minimum loading points (MLPs) applies to a Steam Turbine in a combined-cycle configuration. There may be up to 4 MLPs for a Steam Turbine, with the number of MLPs corresponding to the number of associated Combustion Turbines.

- *MLP 1-on-1*: Minimum loading point for a steam turbine with one associated combustion turbine
- *MLP 2-on-1*: Minimum loading point for a steam turbine with two associated combustion turbines
- *MLP 3-on-1*: Minimum loading point for a steam turbine with three associated combustion turbines
- *MLP 4-on-1*: Minimum loading point for a steam turbine with four associated combustion turbines

Minimum Generation Block Run Time: As per Chapter 11 of the *Market Rules*

Minimum Generation Block Down Time: The minimum number of hours required between the time a generation facility is last at its minimum loading point before de-synchronization, and the time the generation facility reaches its minimum loading point again after synchronization

Maximum Number of Starts per Day: The number of times a generation unit can be started within a dispatch day

Single Cycle Mode Flag: Only applicable to combustion turbines that are associated with a pseudo-unit (PSU). Flag entry determines whether PSU DGD calculations include contributions from both the combustion turbine and the steam turbine (single-cycle mode flag unchecked), or just the combustion turbine (single-cycle mode flag checked)

Reason Code:

The reason codes are:

- T (technical)
- NT (non-technical)

Reason Description: Needs to be entered if a reason code is given

4.7 Report Pages

The report pages are accessible by clicking the Report tab on the Energy Market GUI Workspace.

Note: As of Release 20.0, most reports are no longer available via the Energy Market GUI (MPI). All confidential reports (except for ADHOC reports) are available via the IESO Reports Site at http://reports.ieso.ca/

ADHOC – AMP/MP specific ADHOC reports

ADHOC reports in the MPI can either be downloaded as an HTML or text File. In most cases, all that is required from the user is the date of the report.

The *File Name* field is used to download a template to a file.

4.7.1 ADHOC Report Tab

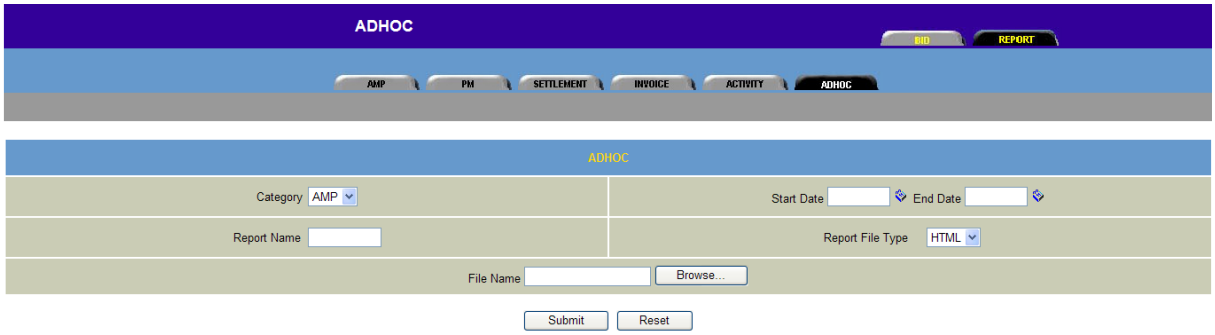

Figure 4-35: ADHOC Report Tab

Reports created by *IESO* internal systems may be made available to *Market Participants* through the *ADHOC* tab.

- End of Section -

5. Tutorials

This section provides a more detailed tutorial as well as a systematic walk through the usage of the Energy Market GUI. There are two main sections:

- the Financial Market and,
- the Physical Market.

The tutorial guides the user through all the necessary actions required to be able to confidently use this tool.

All tutorials assume that the user can successfully connect and log into that MPI and that all configuration steps have been completed.

5.1 Day Ahead Energy Forward Market (DAEFM) Tutorials

This market is currently not available.

5.2 Real Time Energy Market (RTEM) Tutorials

5.2.1 Market Overview

The real time markets are the primary markets in which electricity will be bought and sold. Businesses, industries, and generators embedded in *distribution systems* in Ontario must decide whether to become active *participants* in these markets. *Participants* will have the opportunity to save money by managing their supply or use of electricity according to changes between peak and off-peak times, changes between seasons, or changes caused by other conditions in the market. In addition, new revenue opportunities may arise for companies that wish to buy electricity and sell it to other companies, or to provide *operating reserve* to the *IESO*. However, participation in these markets will require an investment of time and money and new risks - so the decision to participate must be considered carefully.

At market opening, there will be two real time markets, taking *bids* and *offers*:

- *Real Time Energy Market* (also called the *spot market*)
- *Real Time Operating Reserve Market*

Additional to these real time markets, *participants* will also be able to submit Bilateral Contracts and Schedules.

5.2.2 Functions available to Users

The various functions available to *participants* through the MPI are as follows:

- Submission of *bids* and *offers*,
- Update of *bids* and *offers*,
- Cancellation of *bids* and *offers*,
- Query current or future data that has been entered into the database.

5.2.3 Bid/Offer/Schedule Submission Windows

The various submission windows will be controlled automatically, with manual override capability. *Participants* can submit *bids* and *offers* during multiple bid submission windows. Bids received outside the submission window will be rejected with notification to the *participant*.

In the RTEM, bidding is done per logical "resource" (for example, generator, load, injection point, etc.) and *participants* are allowed one bid per logical resource. The logical resource may be an aggregation of individual physical resources or be an individual physical resource by itself.

The "current bid" is defined as the most recent valid submission for the delivery date. Each bid can consist of a subset, or complete set, of the 24-hours of data and each of the 24-hours can have different bid data. Each bid must indicate whether it is for *Generated Power*, *Load*, *Injection* or *Offtake*. Bids can consist of as few as two *price-quantity* bands or as many as twenty *price-quantity* bands, depending on the market type (see below for more details).

Standing *bids* can also be submitted. These are standard bid profiles for a given day of the week, or for all days, that stay in effect until superseded or until a defined "expiration date". *Participants* have the ability to revise and/or cancel "current" or standing *bids* as many times as necessary within any submission window and subject to market-specific window revision rules. *Participants* will need the ability to query their "current" bid for a certain number of days in the past as well as for today independent of market window status.

Bids may be submitted into four windows. To support the requirements of the Day-Ahead Commitment Process (DACP), certain validation rules will apply to bids/offers applicable to hours of tomorrow.

For the purpose of the DACP validations, the following definitions will be used:

1. Day Ahead Resource: All resources that are not Schedules (intermittent generators, self schedules, non-dispatchable loads) and for which bids and offers can be submitted (i.e., all dispatchable resources).

2. Energy Limited Resource (ELR): An ELR resource is an internal generator that is unable to generate at its maximum offered capacity for the entire dispatch day. For the purpose of offer validation, an ELR is a dispatchable generator with an offer for a delivery date of tomorrow, submitted and validated by 10:00 today, with a Daily Energy Limit (DEL) specified in the offer (i.e., the DEL for the generator has been specified as not "NULL").

3. Eligible Energy Limited Resource (EELR): An Energy Limited Resource (ELR) that is a cascading hydroelectric generation facility with a minimum hydraulic time lag to adjacent

(upstream or downstream) hydroelectric generation facilities of less than 24 hours, and where the upstream hydroelectric generation facility is operated by the same *registered market participant*.

4. Pseudo Unit (PSU): A combined cycle plant that is modeled based on a gas-to-steam relationship between physical units. A PSU is comprised of one combustion turbine and a share of one steam turbine at the same combined cycle plant.

5. Bid/Offer: A Bid/Offer can be an Energy or Operating Reserve Bid or Offer.

6. Day-Ahead Production Cost Guarantee (DA-PCG): A settlement amount that guarantees cost recovery for eligible dispatchable *generation facilities* when dispatched to produce *energy* in the *real-time market* and where real-time revenue is insufficient to cover as-offered costs to produce schedules as committed.

- Initial Market Window

The *Initial Market Window* opens at 06:00 for the *Real Time Physical Market* one day ahead. At this point, the 24 one-hour market is created in MIM. The status of each of these markets is set to *Initial*. *Bids* and *offers* may be submitted and revised multiple times during the *Initial Window* without any system constraints.

- Day Ahead ELR Resubmission Window

From 10:00 to 14:00, all *bid/offer* changes (all energy and operating reserve submissions, revisions, and cancellation requests) applicable for any hours of the next day will require operator approval, with the exception of the following resource types:

  - Non-Day Ahead Resources
  - ELRs that are EELRs
  - Physical units associated with PSUs

Bid/offer changes applicable for any hours of the next day which are not approved by 14:00 will be automatically rejected.

- Post Day Ahead Window

From 14:00 to two hours prior to the *Dispatch Hour*, all *bid/offer* changes (all new submissions, revisions, and cancellation requests) applicable for any hours of the current day or the next day are accepted upon standard validations and do not require operator approval, with the exception of the following:

  - A CANCEL request submission for a DA-PCG eligible resource that has a non-zero DA schedule for the hour(s) requested must be accompanied by a reason code and requires CRO approval. However, NEW or REVISED submissions do not require operator approval.
  - This rule applies to energy offers only. Operating reserve offers may be cancelled without operator approval.

- PSU offer submissions are not permitted.

- Mandatory Market Window

The Mandatory Market Window opens 2 hours before the *Dispatch Hour* and closes 10 minutes prior to the *Dispatch Hour*. The status of that hourly market is set to *Mandatory*. Bids and offers that are submitted within this window always require *IESO Operator Approval*. Again, a valid *Reason Code* or textual reason must accompany the bid or offer.

If not approved by an operator, *bid/offer* changes submitted after 14:00 applicable for any hours of the current day or the next day are automatically rejected at Mandatory Market Window close.

- After the *Initial Submission Window* is closed, the data will be used as the basis for the day ahead pre-dispatch. The results of this will be logged into the MIM database and *published*. After the close of the *Initial Submission Window*, the pre-dispatch will be run and *published* every hour.

5.2.4 Submission of Bids in the RTEM Market

The *participant* may submit *bids* for multiple hours at one time. Each of these hourly *bids* may fall into a different market window. The *Physical Markets System* will accept the bid into the appropriate open window and perform the necessary validation.

Note: A bid is referenced to be either a Bilateral/Schedule/Energy/Operating Reserve

Dispatch data submitted during the dispatch day to which it applies need refer only to the remaining dispatch hours of that dispatch day.

Whenever a bid fails validation in the Physical Market, the system will attempt to diagnose the problem and alert the *participant* to the source of the error. A bid will be processed until further processing is impossible or meaningless. All validation errors found in the bid as part of this processing, will be reported back to the *participant*, not just the first error found. All valid hours of a bid will be accepted for each resource, with error messages returned for each invalid hour.

Syntax errors within a bid or offer will result in a complete rejection of that bid or offer.

5.2.5 Physical Bilateral Contracts (PBC's) Tutorials

Please refer to the Subsection 4.7.2 (Bilateral Contract Data Submission Form) for detailed description of the Form Controls.

The following tutorials demonstrate to the user how to submit, retrieve, and cancel *Bilateral Contracts*.

Please refer to the subsection on PBC Cancellation below for an example of cancellation of an existing PBCD.

Any resource, as long as it is defined in the *Master File* (*Participant Lifecycle System*), may be used as the (*Resource ID*). A list of Bilateral *Delivery Points* is available on the *IESO* web-site. For this tutorial however, a *Dispatchable Generator* resource will be used.

PBC Submission (HTML)

PBC's may be submitted during a defined time submission window. This window is defined as 7 calendar days before and 6 *business days* after the trading date. This tutorial will only concentrate on the submission of a PBCD for an absolute quantity, hours 1-12, with the trading date February 5 = d_{+1}.

1. Select the *BILATERAL Market Tab*.
2. Ensure that the *Delivery Date* is tomorrow.
3. Select *SUBMIT* from the *Action* pull-down box.
4. Select *NO* from the *Standing Flag* pull-down box.
5. Enter the *Participants* short name in the *Participant Seller* text box.
6. Enter the short name for the Buyer in the *Participant Buyer* text box.
7. Enter the name of the *Resource* agreed to in the contract to be used as the settlement point. If unknown, press the "-i-"flag and choose from the list of resources available. A list of dispatchable and non-dispatchable *delivery points* is available on the *IESO* web-site.
8. For hours 1 through 12 inclusive, check the *Hour* checkbox.
9. For each of the checked hours,
    a. Enter a quantity up to the maximum quantity of the designated resource,
    b. Select the appropriate credit/debit uplift allocation check boxes.
10. Click the ***SUBMIT*** button at the bottom of the page.
11. A unique Transaction ID will be generated for the PBC submitted.

Note: Do not check the PBC Percentage Flag. The PBC percentage flag is only used for the settling 100% of the allocated metering quantities at the location identified by the *Delivery Point*. The Expiry Date is used only for Standing PBCD Submission's.

Expiry Date is used only for Standing PBCD Submissions. The user should allow one day for the conversion of the expiry day. Thus, if the user wants the contract to be in effect until the day X, he must enter the expiry date = X – 1 (X minus one.)

Note 2: The Submission of a Standing PBC (SPBCD) becomes effective on Day 2 after the submission day (Day 0.), so the Delivery Date is ignored.

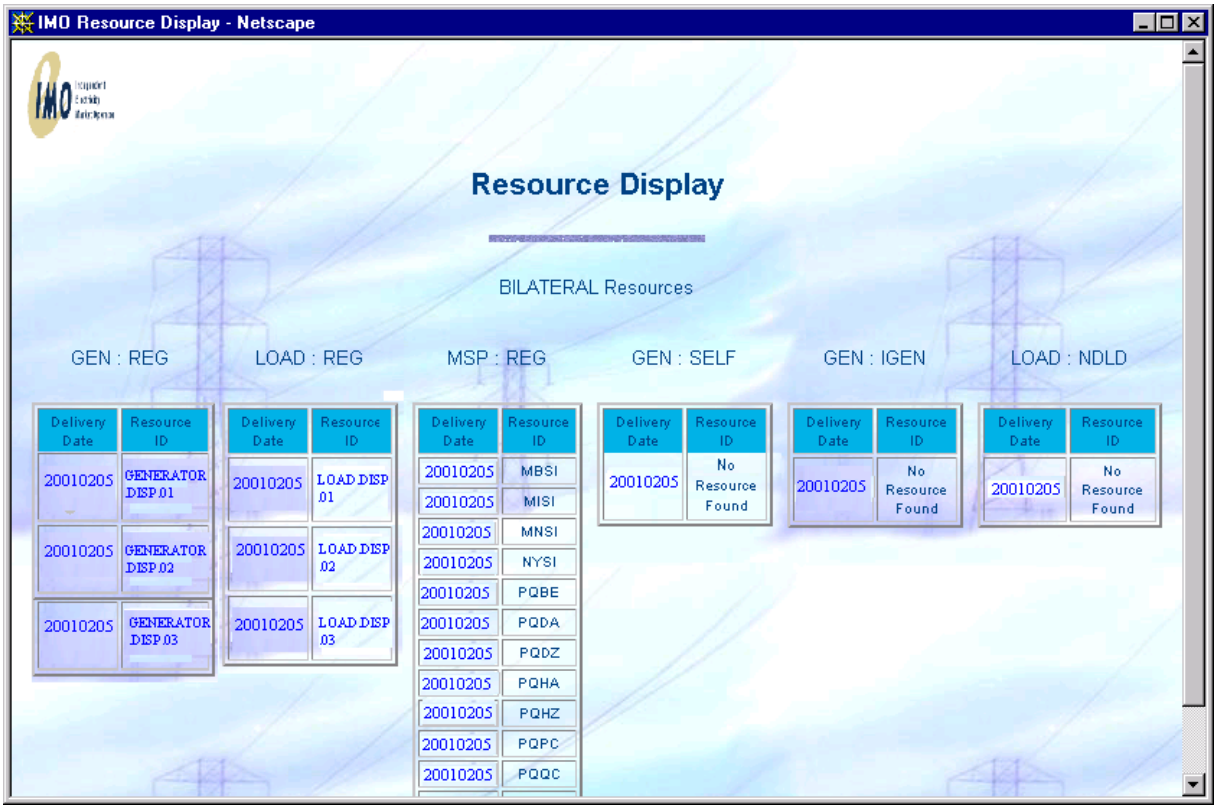

Figure 5-1: Resource Display (Bilateral Contracts)

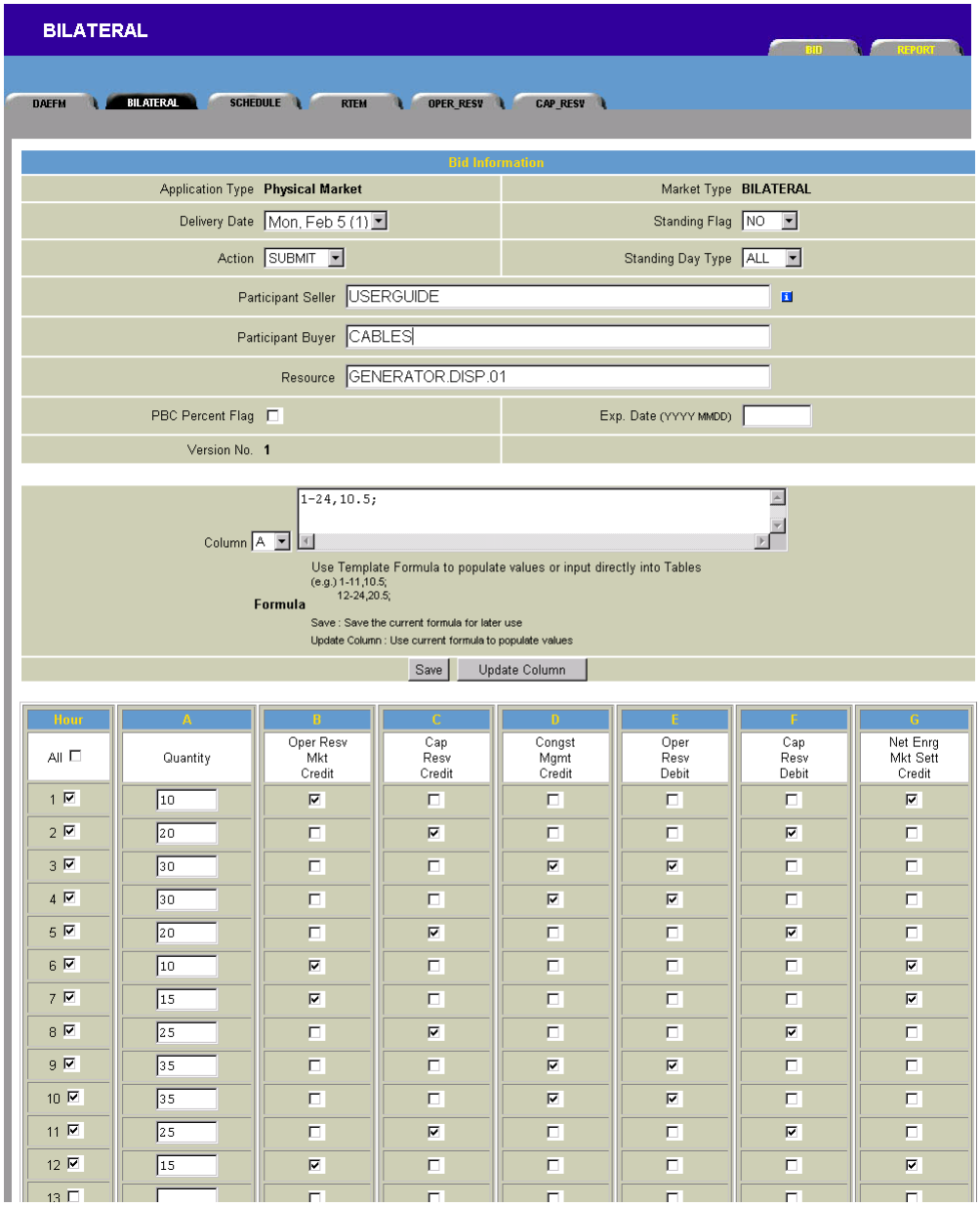

Figure 5-2: PBC Submission (HTML)

MIRP Bid Modification Status Page
Transaction Id 24CVV0
VALIDATION STATUS
PM_SUCCESS: Hour 1 successfully inserted/updated with all validations
PM_SUCCESS: Hour 2 successfully inserted/updated with all validations
PM_SUCCESS: Hour 3 successfully inserted/updated with all validations
PM_SUCCESS: Hour 4 successfully inserted/updated with all validations
PM_SUCCESS: Hour 5 successfully inserted/updated with all validations
PM_SUCCESS: Hour 6 successfully inserted/updated with all validations
PM_SUCCESS: Hour 7 successfully inserted/updated with all validations
PM_SUCCESS: Hour 8 successfully inserted/updated with all validations
PM_SUCCESS: Hour 9 successfully inserted/updated with all validations
PM_SUCCESS: Hour 10 successfully inserted/updated with all validations
PM_SUCCESS: Hour 11 successfully inserted/updated with all validations
PM_SUCCESS: Hour 12 successfully inserted/updated with all validations

Figure 5-3: PBC Submission (HTML) Status Page

PBC Retrieval/Submission (ASCII)

PBC Retrieval (ASCII)

Please refer to the Template Format on the *IESO* Technical Interface Page.

The following tutorial demonstrates the retrieval of a PBCD to a text file and then the re-submission of that text file.

1. Select the *Main BID Tab* to display the Energy Market GUI *Workspace*.
2. In the *Action* window,
    a. Select the *Template* radio button.
    b. Select the *Retrieve* radio button.
    c. Select *Full* in the pull-down box.
3. Click the ***BROWSE…*** button and enter a filename and location for the download file.
4. In the *Application* window,
    a. Select *Physical* in the *Market Type* pull-down box.
    b. Select the *Delivery Date*.
5. For hours 1 through 12 inclusive, select the *Hour* checkbox.
6. In the *Physical Market Window* (Bilateral Section),

a) Select the *BILATERAL* checkbox.

b) Enter the *Participant Seller* short name.

c) Enter the *Participant Buyer* short name.

d) Enter the *Resource Name*.

Note: It is possible to just provide some of the details. For example, if only the *BILATERAL* checkbox was selected, *ALL* Bilateral Contracts for that participant will be retrieved. Remember that this is only possible when retrieving to a file unless the query only yields a single result.

7. Click the ***SUBMIT*** button at the bottom of the page.

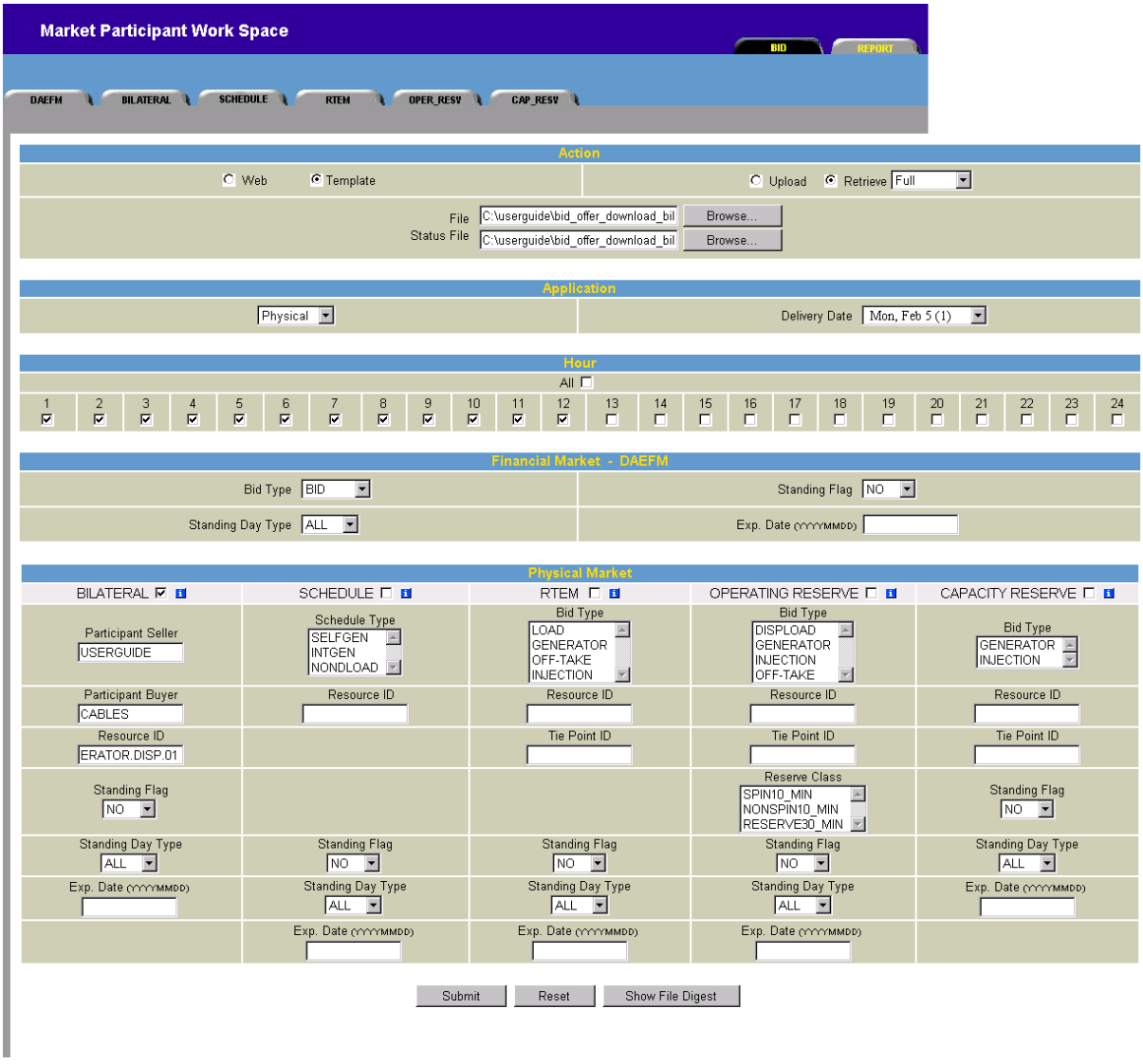

Figure 5-4: PBC Retrieval/Submission (ASCII)

Figure 5-5: Download Request Successful Dialog

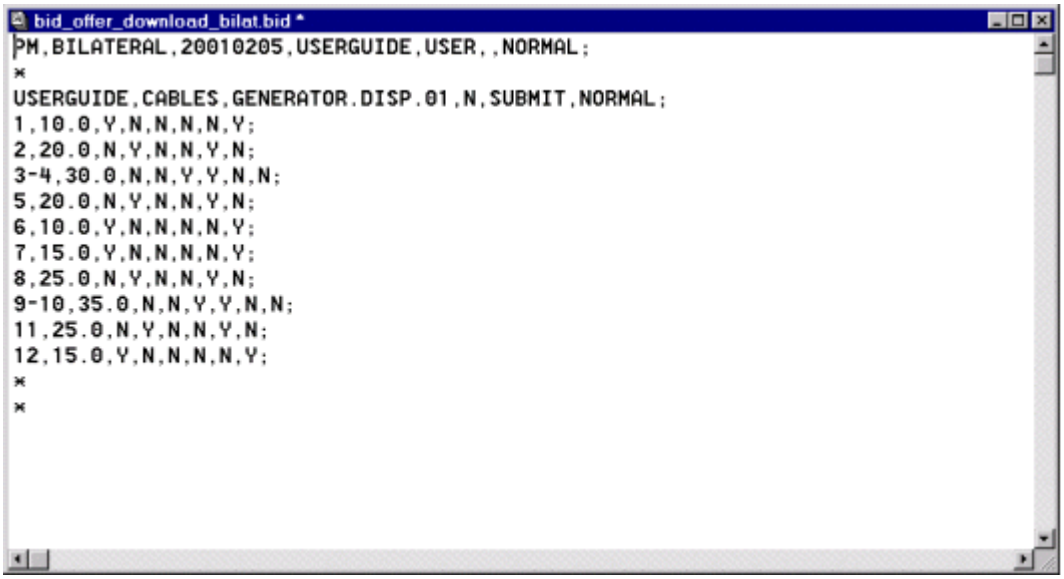

Figure 5-6: Downloaded PBC File

PBC Submission (ASCII)

The following tutorial demonstrates to the user how to upload an ASCII Text File.

1. In a suitable text editor, PFE for example, modify the previously downloaded file so that the hours 13-24 are covered.
2. Save the file as a different filename.
3. In the MPI, select the *Main BID Tab* to display the Energy Market GUI *Workspace*.
4. In the *Action* window,
   a. Select the *Template* radio button.
   b. Select the *Upload* radio button.
   c. Click the ***BROWSE…*** button and select the modified file.
   d. Note the location of the *Status File*. By default it is in the same location and has the same filename with an additional *.err* extension.
5. Click the ***SUBMIT*** button at the bottom of the page.

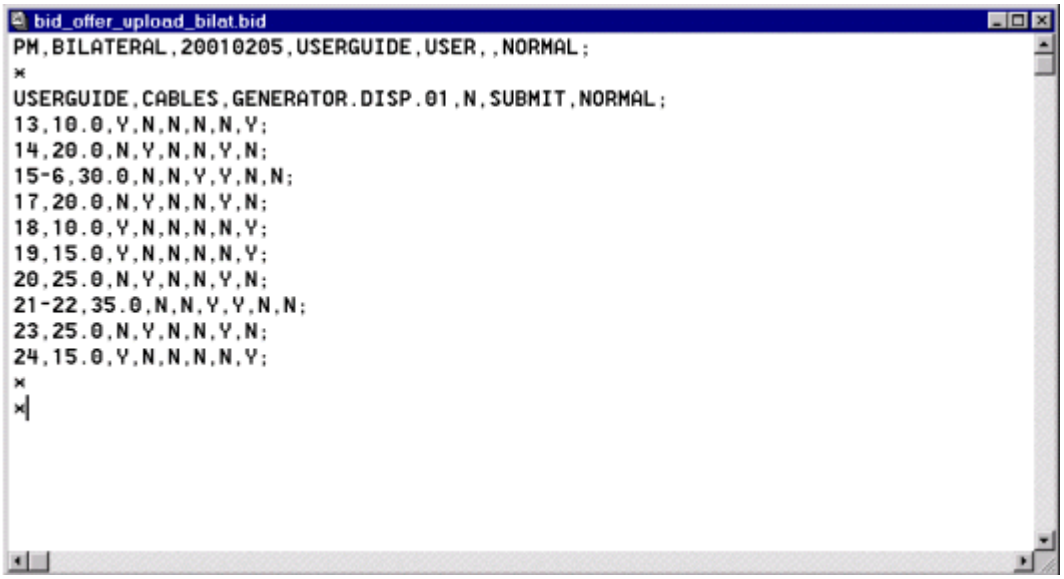

Figure 5-7: PBC Upload File

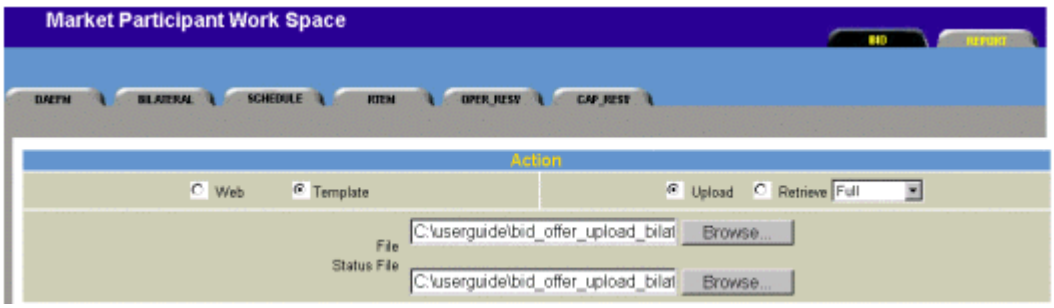

Figure 5-8: PBC Submission (ASCII)

Figure 5-9: Upload Request Successful Dialog

```
Submission Date : 20010204  13:56:50

Parsing Status for Bid # 1 <PM, BILATERAL, 20010205, USERGUIDE, USER, >  : Success
Inserting PM bid into database <USERGUIDE, USER>          : Permission granted

PM_SUCCESS: Hour 13 successfully inserted/updated with all validations
PM_SUCCESS: Hour 14 successfully inserted/updated with all validations
PM_SUCCESS: Hour 15 successfully inserted/updated with all validations
PM_SUCCESS: Hour 16 successfully inserted/updated with all validations
PM_SUCCESS: Hour 17 successfully inserted/updated with all validations
PM_SUCCESS: Hour 18 successfully inserted/updated with all validations
PM_SUCCESS: Hour 19 successfully inserted/updated with all validations
PM_SUCCESS: Hour 20 successfully inserted/updated with all validations
PM_SUCCESS: Hour 21 successfully inserted/updated with all validations
PM_SUCCESS: Hour 22 successfully inserted/updated with all validations
PM_SUCCESS: Hour 23 successfully inserted/updated with all validations
PM_SUCCESS: Hour 24 successfully inserted/updated with all validations



    Transaction ID : 24Duo0

    1 bids received
    1 bids accepted in full
    0 bids rejected in full because of syntax errors
    0 bids partially or fully rejected with bid errors
```

Figure 5-10: PBC Status File

PBC Retrieval (HTML)

The following tutorial demonstrates to the user how to retrieve a PBCD into the WEB in HTML format.

1. Select the *Main BID Tab* to display the Energy Market GUI *Workspace*.
2. In the *Action* window,
    a) Select the *Web* radio button.
    b) Select the *Retrieve* radio button.
    c) Select *Full* in the pull-down box.
3. In the Application window:
    a) Select Physical in the Market Type pull-down box.
    b) Select the Delivery Date (For the Standing PBC, the Delivery Date is ignored.)

4. In the *Hour* window, select the *All* checkbox so that the hours 1 through 24 are selected.
5. In the *Physical Market Window* (Bilateral Section),
   a) Select the *BILATERAL* checkbox.
   b) Enter the *Participant Seller* short name.
   c) Enter the *Participant Buyer* short name.
   d) Enter the *ResourceName*.

Note: It should be noted that enough information must be supplied to yield a single result. If multiple results are required, the user must download the data to a text file.

6. Click the ***SUBMIT*** button at the bottom of the page.

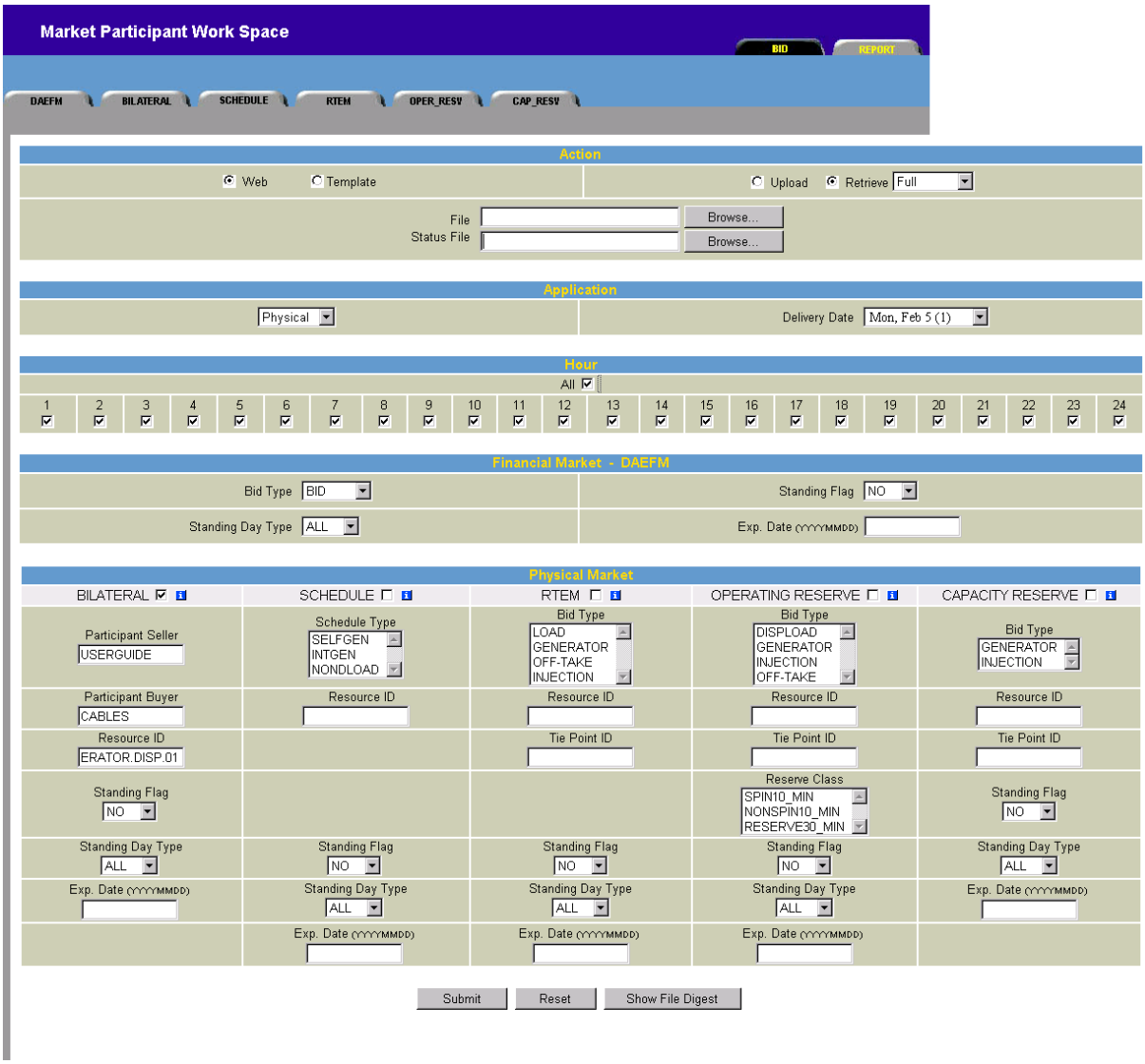

Figure 5-11: PBC Retrieval (HTML)

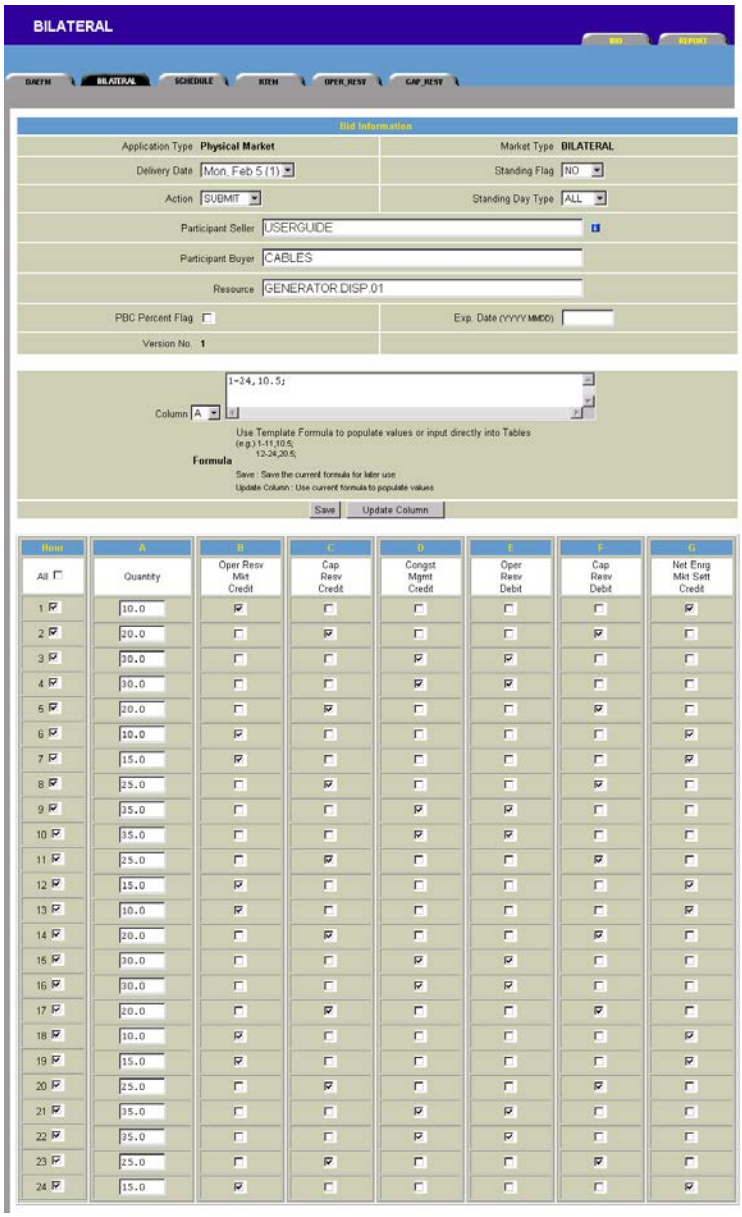

Figure 5-12: Retrieved PBC (HTML)

PBC Cancellation (HTML)

The following steps show the user how to cancel a PBCD for all or specific hours.

Note: If a participant wishes to change quantities, change the type of the contract to 100% PBC, or change to a Standing PBCD, then the Seller *Market Participant* must cancel all hours of the day for the contract already submitted; then enter a new Bilateral Contract, as desired (go to the Submission Section for a new entry.)

In cases where the user is dealing with vast amounts of information, it is better to plan in advance to ensure that the correct PBC is cancelled.

1. Repeat the steps detailed in the *PBC Retrieval* (HTML) tutorial. This will bring up the PBC Submission Form. Select only 2 hours instead of 24. For example, hour 1 and 2 will be retrieved.

2. In the *Bid Information Window* in the *PBC Submission form*, change the *Action* to *CANCEL*. For whole day cancellation, all the hours should be selected.

Note: If a participant wishes to cancel only a few hours instead of all hours, he should deselect the hours to be retained in the new PBC (i.e. only selected – checked – hours will be cancelled.) In the Bilateral submission form below , only Hour 1 and Hour 2 are checked for cancellation.

3. Click the ***SUBMIT*** button at the bottom of the page.

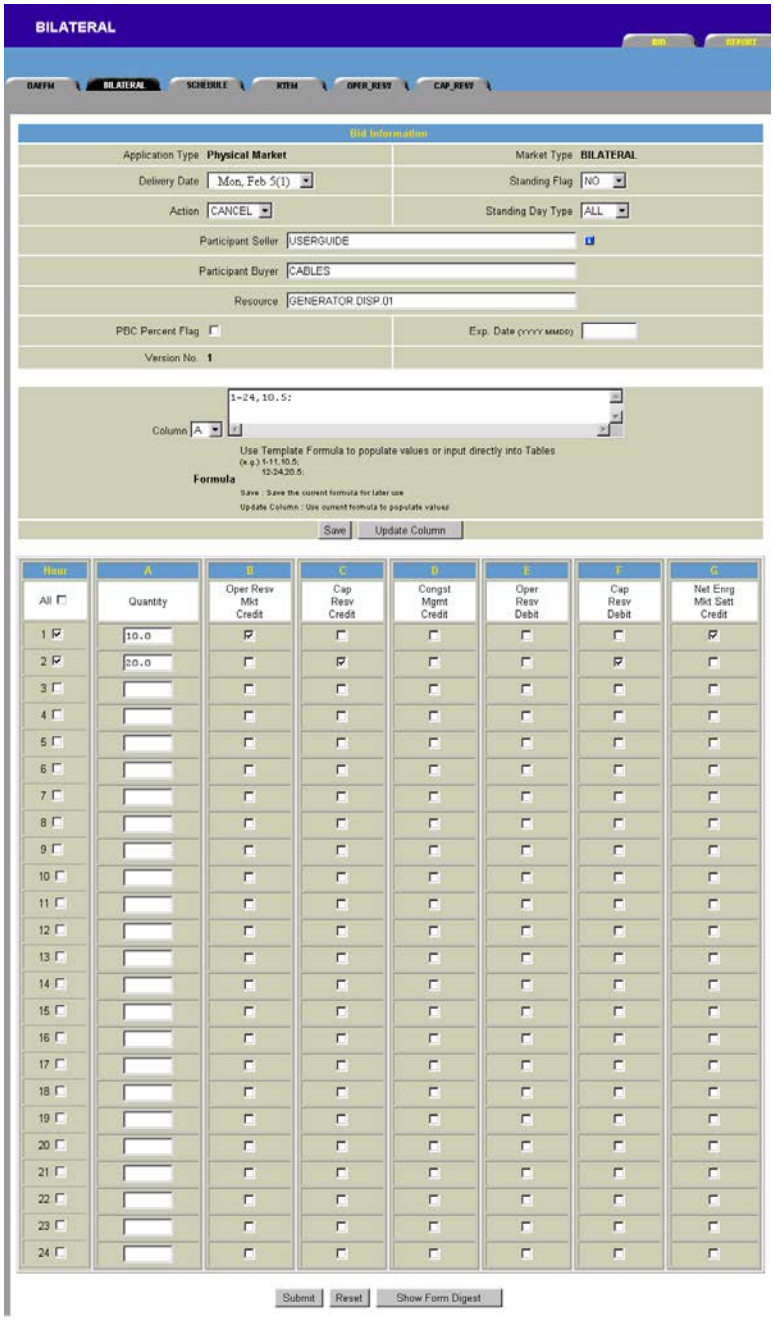

Figure 5-13: Canceling a PBC (HTML)

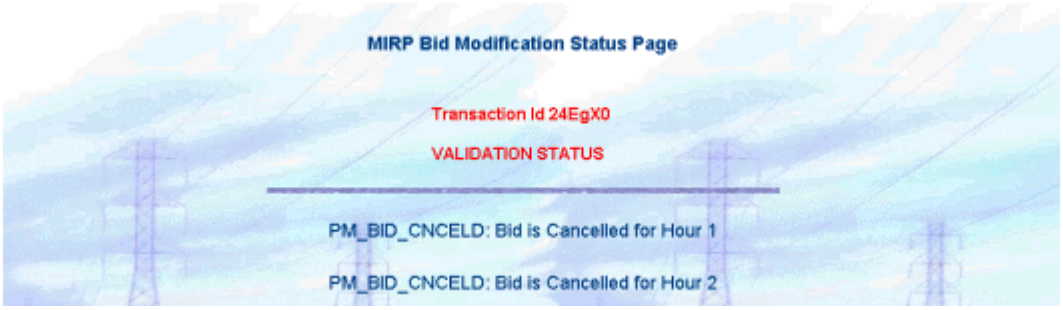
MIRP Bid Modification Status Page
Transaction Id 24EgX0
VALIDATION STATUS
PM_BID_CNCELD: Bid is Cancelled for Hour 1
PM_BID_CNCELD: Bid is Cancelled for Hour 2

Figure 5-14: PBC Cancellation (HTML) Status Page

If the user wishes, the whole PBCD can then be retrieved again by following the steps in the *PBC Bid Retrieval* (HTML) tutorial. The user should notice that the hours that were cancelled in this tutorial are no longer part of the PBCD.

Note: The Cancellation of a Standing PBC (SPBCD) becomes effective on Day 2 after cancellation day (Day 0.) The Delivery Date is ignored. The other days, remained in the system, cannot be cancelled as "SPBCD", but may be cancelled in the "PBCD" mode.

PBC Cancellation (ASCII)

1. To retrieve the PBC to file, follow the steps in the *PBC Retrieval (ASCII)* tutorial.
2. In an appropriate Text Editor, for example PFE, delete the bid body from the PBC. These are the lines starting with the market hour.
3. Replace the deleted lines with the individual hours that are to be cancelled. For example:

   1-4; Hours 1 to 4 will be cancelled

   5; Hours 5 and 7 will be cancelled

   7;
4. In the *Bid Header*, the part that reads, **SUBMIT, NORMAL**, change the text *SUBMIT* to *CANCEL*.
5. Save the file as a different filename.
6. To submit the Bid and Offer cancellation, follow the steps in the *PBC Submission (ASCII)* tutorial.

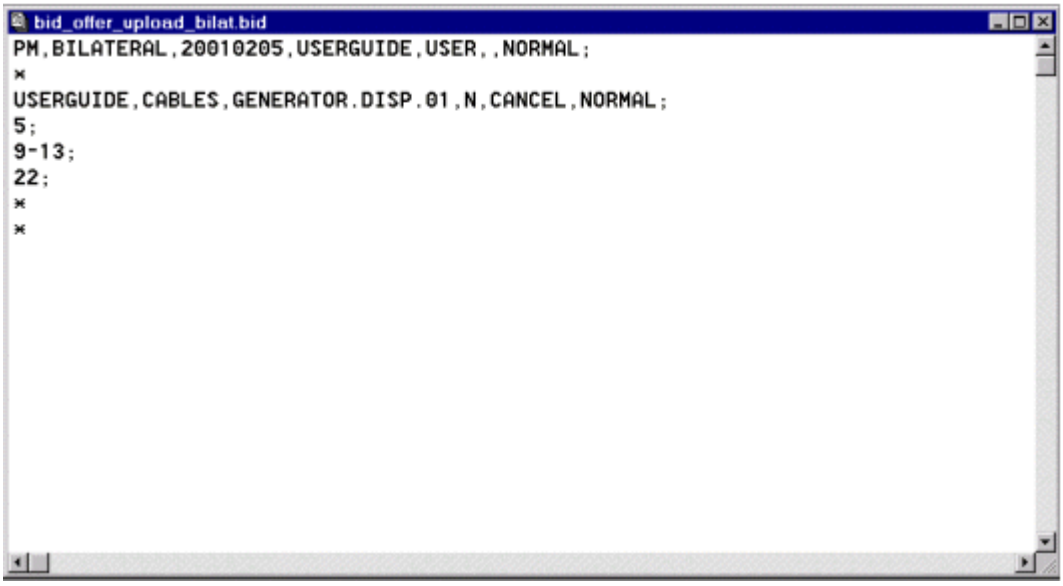

Figure 5-15: PBC Cancellation File

5.2.6 Schedules Tutorials

The following tutorials demonstrate to the user how to submit, retrieve, and cancel Scheduled Bids. Different types of resources can be submitted for schedules. In this tutorial however, only *Self-Scheduled Generators* will be used. Other resource types namely *Intermittent Generators* and *Non-Dispatchable Loads* can be treated in the same way.

Schedule Submission (HTML)

Schedules may be submitted during the *Real Time Physical Market Window*. This tutorial will only concentrate on the submission of a Schedule for d_{+1}.

1. Select the *SCHEDULE Market Tab*.
2. Ensure that the *Delivery Date* is tomorrow.
3. Select *SUBMIT* from the *Action* pull-down box.
4. Select ***NO*** from the *Standing Flag* pull-down box.
5. If known, enter the name of the *Resource*. If unknown, press the '-i-'flag and choose from the list of resources available.
6. For hours 1 through 12 inclusive, select the *Hour* checkbox.
7. For each of the checked hours,
   a) Enter a price, +- *Maximum Market Clearing Price*.
   b) Enter a quantity not exceeding that of the *Resources* capability.

6. Click the ***SUBMIT*** button at the bottom of the page.

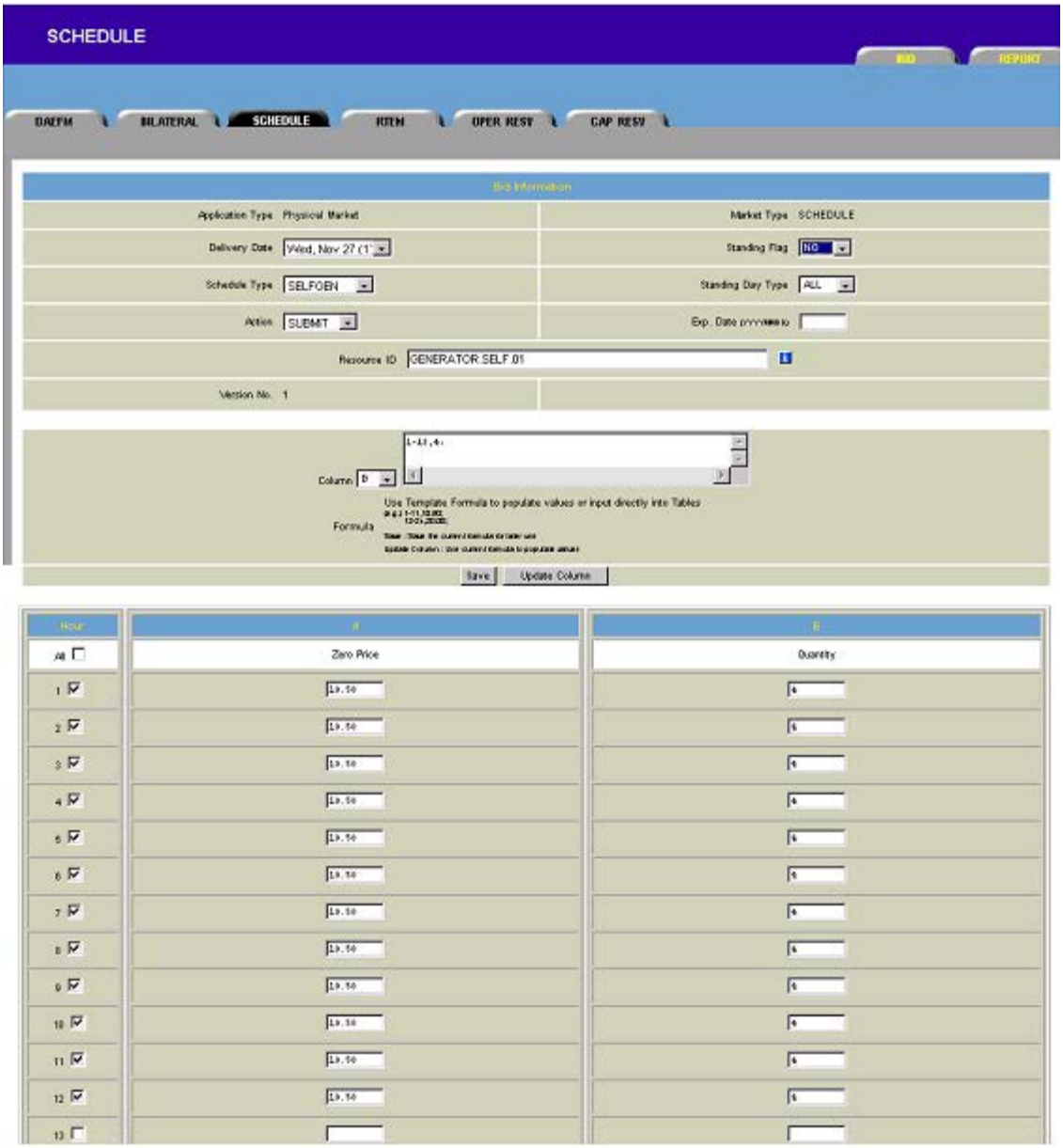

Figure 5-16: Schedule Submission (HTML)

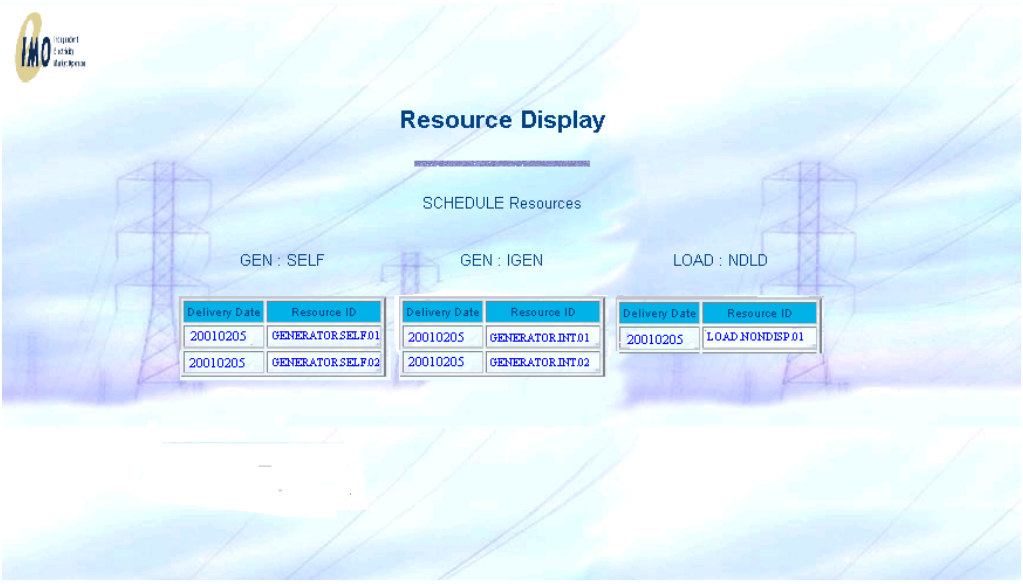

Figure 5-17: Resource Display (Schedules)

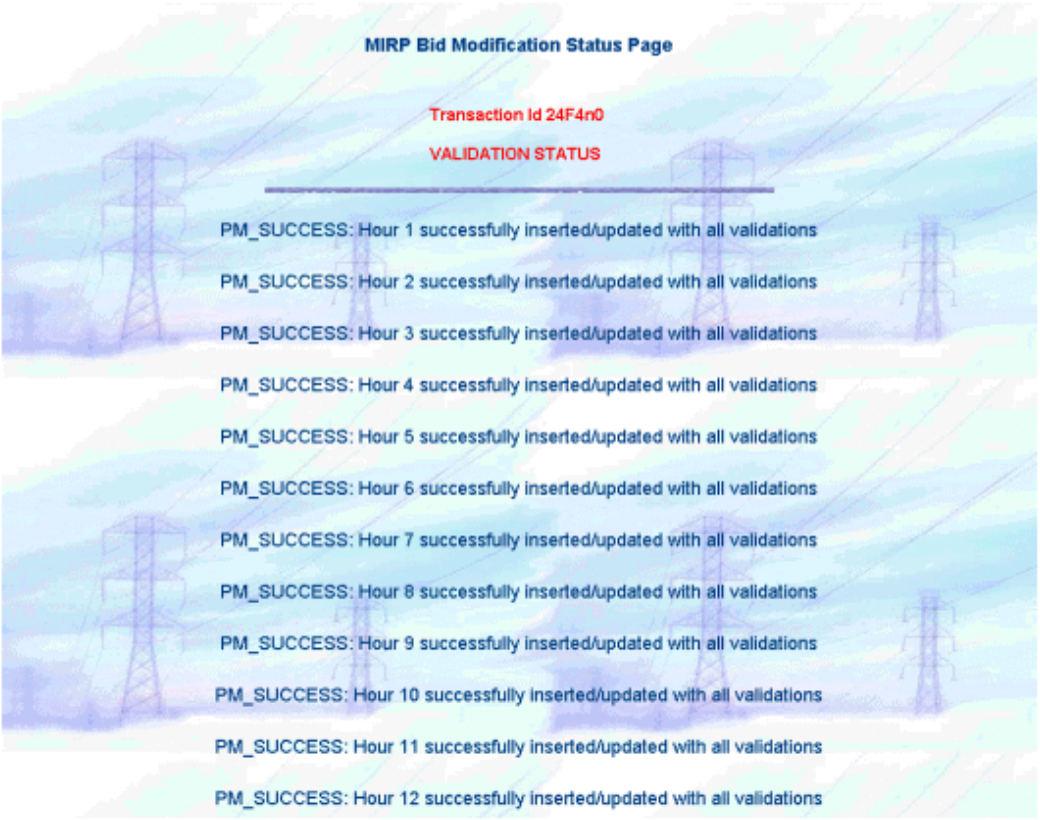
MIRP Bid Modification Status Page
Transaction Id 24F4n0
VALIDATION STATUS
PM_SUCCESS: Hour 1 successfully inserted/updated with all validations
PM_SUCCESS: Hour 2 successfully inserted/updated with all validations
PM_SUCCESS: Hour 3 successfully inserted/updated with all validations
PM_SUCCESS: Hour 4 successfully inserted/updated with all validations
PM_SUCCESS: Hour 5 successfully inserted/updated with all validations
PM_SUCCESS: Hour 6 successfully inserted/updated with all validations
PM_SUCCESS: Hour 7 successfully inserted/updated with all validations
PM_SUCCESS: Hour 8 successfully inserted/updated with all validations
PM_SUCCESS: Hour 9 successfully inserted/updated with all validations
PM_SUCCESS: Hour 10 successfully inserted/updated with all validations
PM_SUCCESS: Hour 11 successfully inserted/updated with all validations
PM_SUCCESS: Hour 12 successfully inserted/updated with all validations

Figure 5-18: Schedule Submission (HTML) Status Page

Schedule Retrieval/Submission (ASCII)

Schedule Retrieval (ASCII)

The following tutorial demonstrates the retrieval of a *Schedule* to a text file and then the resubmission of that text file.

1. Select the *Main BID Tab* to display the Energy Market GUI *Workspace*.
2. In the *Action* window,
    a) Select the *Template* radio button.
    b) Select the *Retrieve* radio button.
    c) Select *Full* in the pull-down box.
3. Click the ***BROWSE…*** button and enter a filename and location for the download file.
4. In the *Application* window,
    a) Select *Physical* in the *Market Type* pull-down box.
    b) Select the *Delivery Date* as tomorrow.
5. For hours 1 through 12 inclusive, select the *Hour* checkbox.
6. In the *Physical Market Window* (*Schedule Section*),
    a) Select the *SCHEDULE* checkbox.
    b) Select the Schedule Type.
    c) Enter the *Resource ID* for the schedule that is to be retrieved.

Note: It is possible to just provide some of the details. For example, if only the *SCHEDULE* checkbox was selected, schedules for that participant will be retrieved. Remember that this is only possible when retrieving to a file unless the query only yields a single result.

7. Click the ***SUBMIT*** button at the bottom of the page.

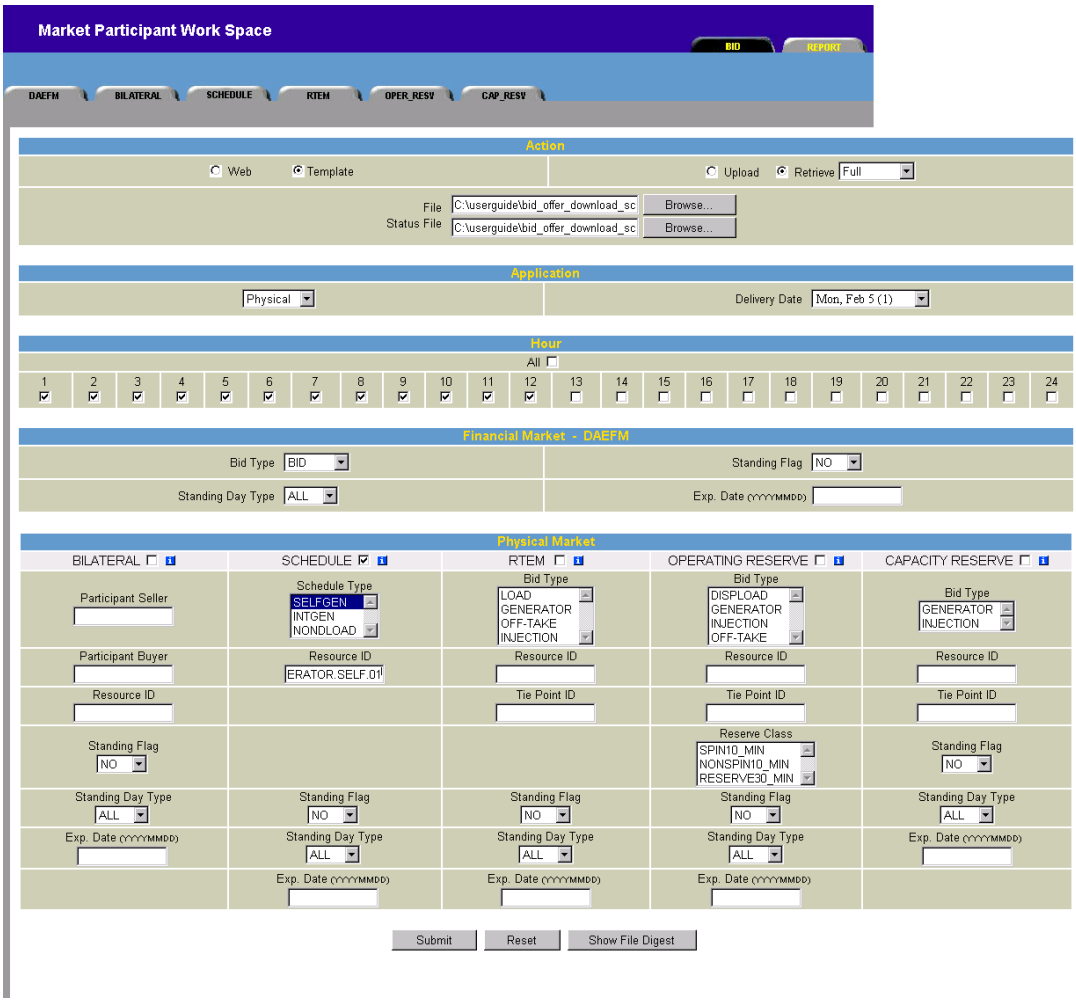

Figure 5-19: Schedule Retrieval/Submission (ASCII)

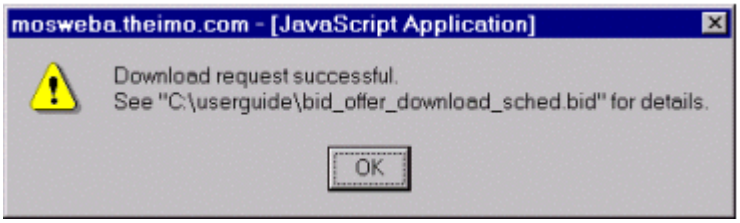

Figure 5-20: Download Request Successful Dialog

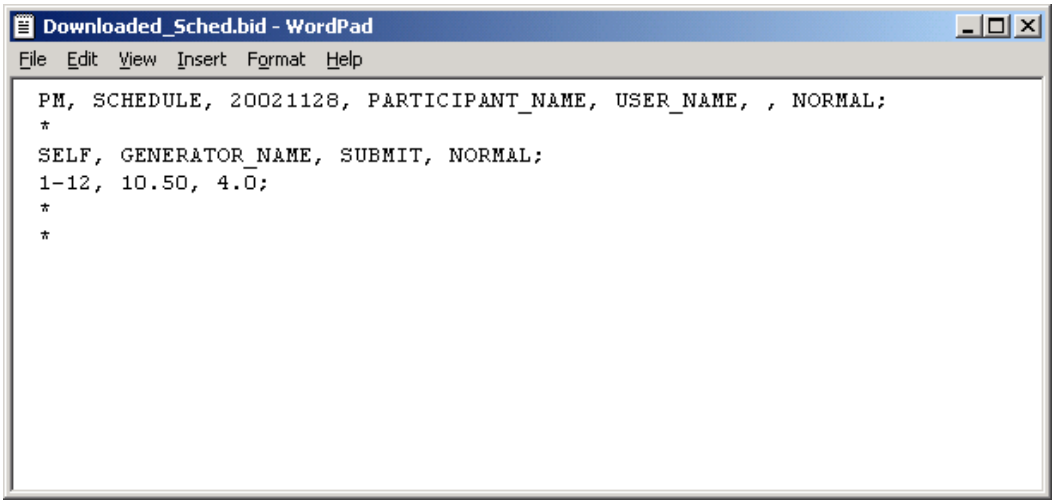

Figure 5-21: Downloaded Schedule File

Schedule Submission (ASCII)

The following tutorial demonstrates to the user how to upload an ASCII Text File.

1. In a suitable text editor, PFE for example, modify the previously downloaded file so that the hours 13-24 are submitted.
2. Save the file as a different filename.
3. In the MPI, select the Main BID Tab to display the Energy Market GUI Workspace.
4. In the Action window,
   a) Select the *Template* radio button.
   b) Select the *Upload* radio button.
   c) Click the ***BROWSE…*** button and select the modified file.

Note: Notice the location of the *Status File*. By default it is in the same location and has the same filename with an additional *.err* extension.

5. Click the Submit button at the bottom of the page.

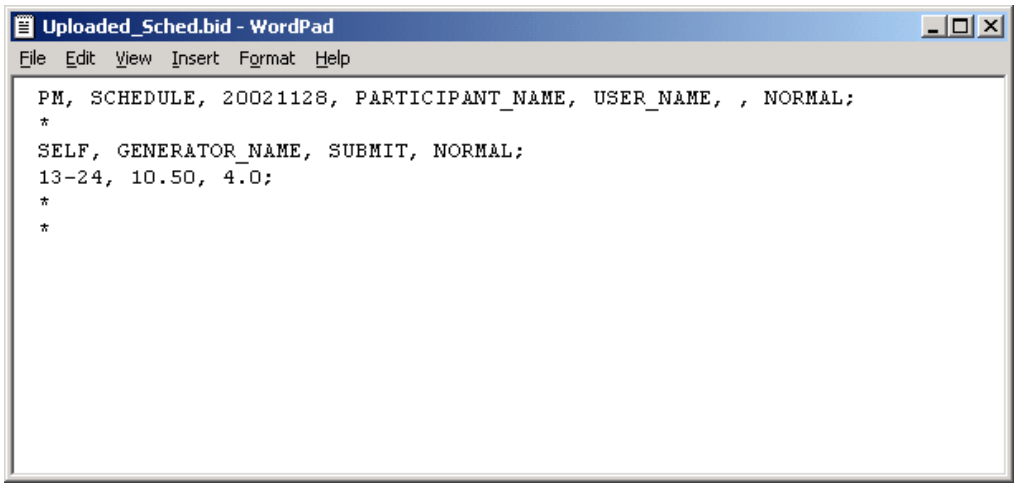

Figure 5-22: Schedule Upload File

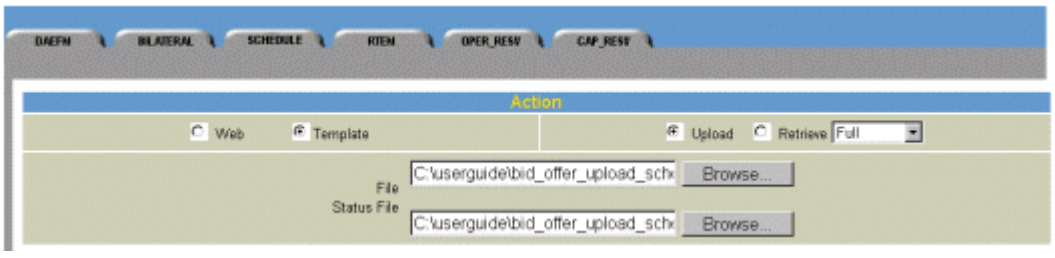

Figure 5-23: Schedule Submission (ASCII)

Figure 5-24: Upload Request Successful Dialog

```
Submission Date : 20010204  15:25:49

Parsing Status for Bid # 1 <PM, SCHEDULE, 20010205, USERGUIDE, USER, GENERATOR.SELF.01>  : Success
Inserting PM bid into database <USERGUIDE, USER>          : Permission granted

PM_SUCCESS: Hour 13 successfully inserted/updated with all validations
PM_SUCCESS: Hour 14 successfully inserted/updated with all validations
PM_SUCCESS: Hour 15 successfully inserted/updated with all validations
PM_SUCCESS: Hour 16 successfully inserted/updated with all validations
PM_SUCCESS: Hour 17 successfully inserted/updated with all validations
PM_SUCCESS: Hour 18 successfully inserted/updated with all validations
PM_SUCCESS: Hour 19 successfully inserted/updated with all validations
PM_SUCCESS: Hour 20 successfully inserted/updated with all validations
PM_SUCCESS: Hour 21 successfully inserted/updated with all validations
PM_SUCCESS: Hour 22 successfully inserted/updated with all validations
PM_SUCCESS: Hour 23 successfully inserted/updated with all validations
PM_SUCCESS: Hour 24 successfully inserted/updated with all validations



    Transaction ID : 24FPn0

    1 bids received
    1 bids accepted in full
    0 bids rejected in full because of syntax errors
    0 bids partially or fully rejected with bid errors
```

Figure 5-25: Schedule Status File

Schedule Retrieval (HTML)

The following tutorial demonstrates to the user how to retrieve a Schedule into the WEB in HTML format.

1. Select the *Main BID Tab* to display the Energy Market GUI *Workspace*.
2. In the *Action* window,
    a. Select the Web radio button.
    b. Select the Retrieve radio button.
    c. Select Full in the pull-down box.
3. In the *Application* window,
    a. Select Physical in the Market Type pull-down box.
    d. Select the Delivery Date as tomorrow.
1. In the *Hour* window, select the *All* checkbox so that the hours 1 through 24 are selected.
2. In the *Physical Market Window (Schedule Section),*
    a. Select the SCHEDULE checkbox.
    e. Select the Schedule Type.

f. Enter the Resource ID.

Note: Enough information must be supplied to yield a single result. If multiple results are required, the user must download the data to a text file.

3. Click the ***SUBMIT*** button at the bottom of the page.

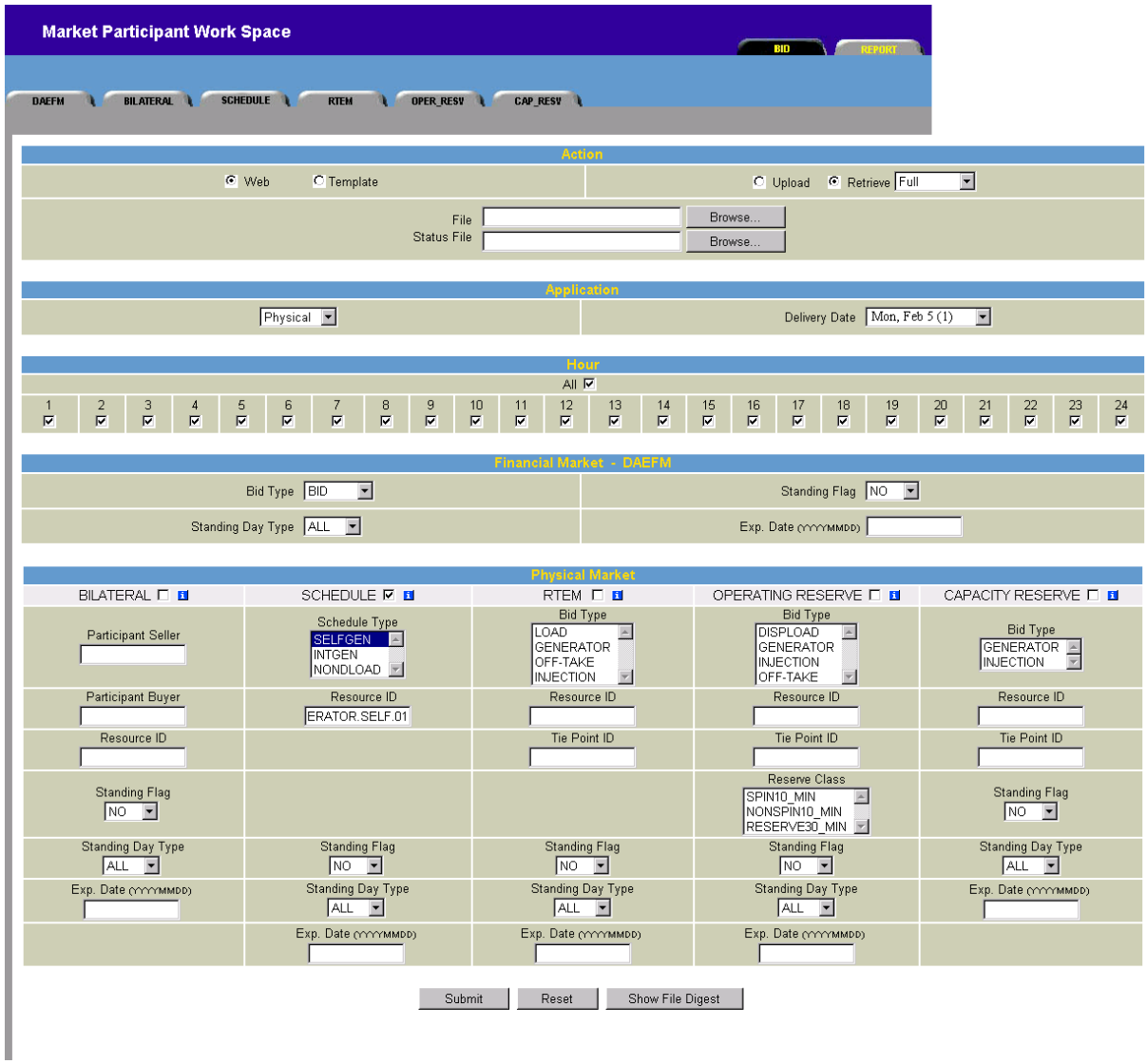

Figure 5-26: Schedule Retrieval (HTML)

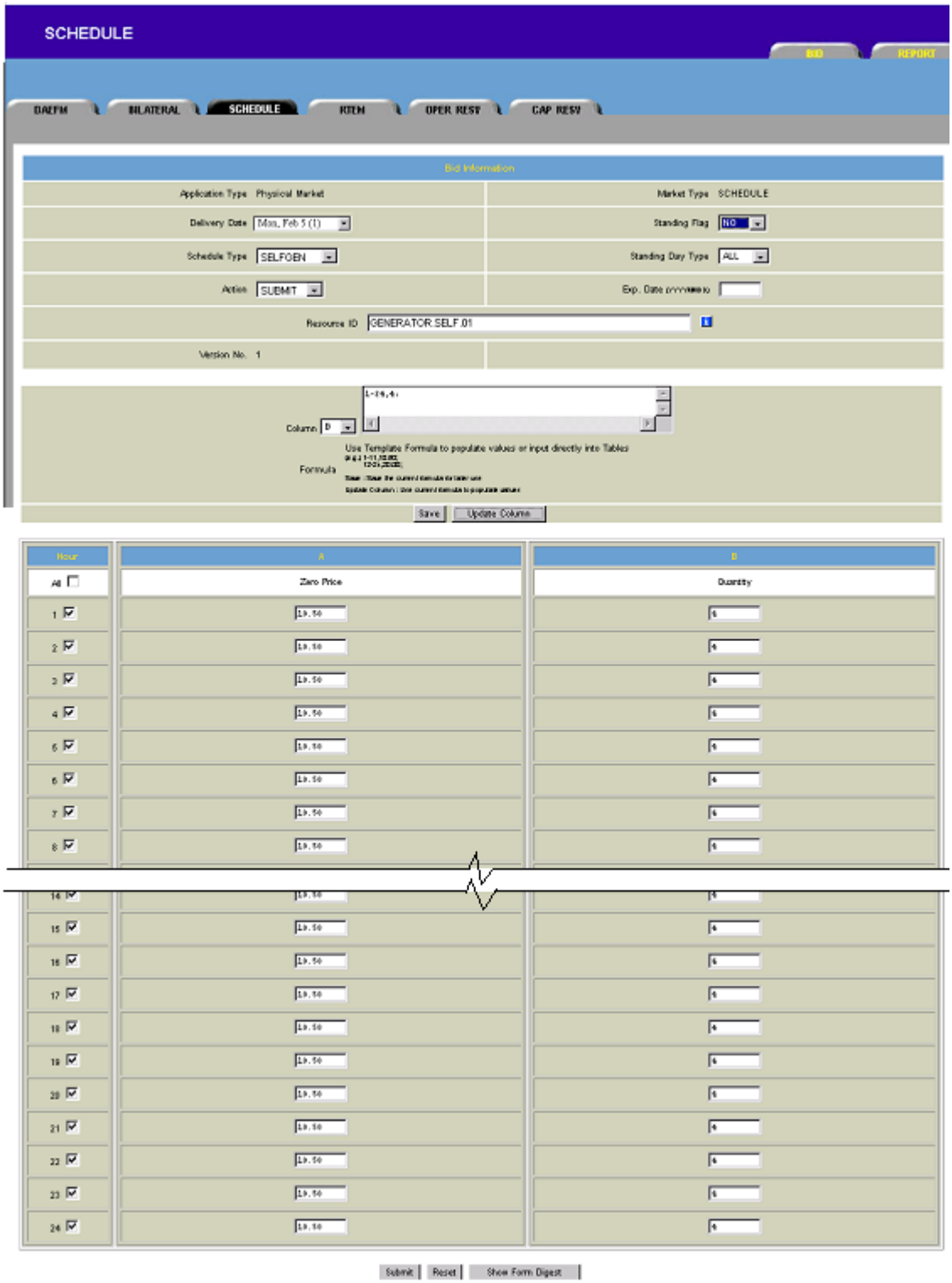

Figure 5-27: Sample Retrieved Schedule (HTML)

Schedule Cancellation (HTML)

The following steps show the user how to cancel a Schedule by first retrieving the Schedule into the web and then submitting those hours as cancelled. The first step is in fact unnecessary as the bid can be cancelled straight from the *Schedule Submission Form*. In cases where the user is dealing with vast amounts of information, it is sometimes better to 'eyeball' the data first to ensure that the correct Schedule is being cancelled.

1. Repeat the steps detailed in the Schedule Retrieval (HTML) tutorial but only select 2 hours instead of 24. For example, hour 1 and 2 will be retrieved.
2. In the *Bid Information Window* in the *Bid Submission Form*, change the *Action* to *CANCEL*.
3. Click the ***SUBMIT*** button at the bottom of the page.

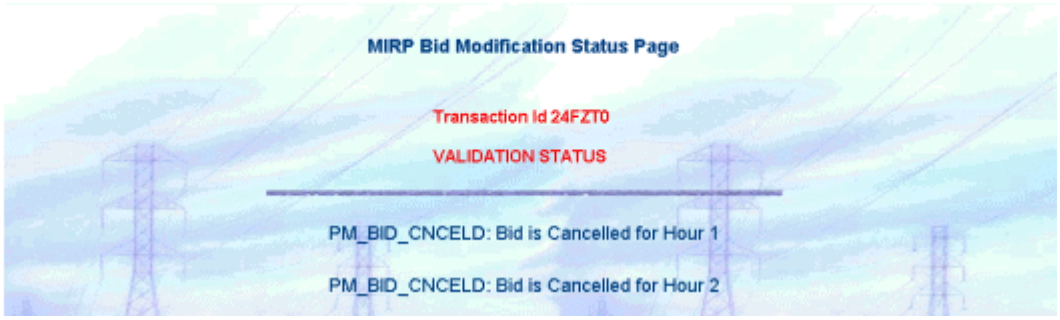
MIRP Bid Modification Status Page
Transaction Id 24FZT0
VALIDATION STATUS
PM_BID_CNCELD: Bid is Cancelled for Hour 1
PM_BID_CNCELD: Bid is Cancelled for Hour 2

Figure 5-28: Schedule Cancellation (HTML) Status Page

If the user wishes, the whole schedule can then be retrieved again by following the steps in the *Schedule Bid Retrieval (HTML)* tutorial. The user should notice that the hours that were cancelled in this tutorial are no longer part of the bid.

Schedule Cancellation (ASCII)

1. To retrieve the Schedule to file, follow the steps in the *Schedule Retrieval (ASCII)* tutorial.
2. In an appropriate Text Editor, for example PFE, delete the bid body from the Schedule. These are the lines starting with the market hour.
3. Replace the deleted lines with the individual hours that are to be cancelled. For example:

   1-4; Hours 1 to 4 will be cancelled

   5; Hours 5 and 6 will be cancelled

   6;
4. In the *Bid Header*, the part that reads, **SUBMIT, NORMAL**, change the text *SUBMIT* to *CANCEL*.
5. Save the file as a different filename.
6. To submit the Bid and Offer cancellation, follow the steps in the Schedule *Submission (ASCII)* tutorial.

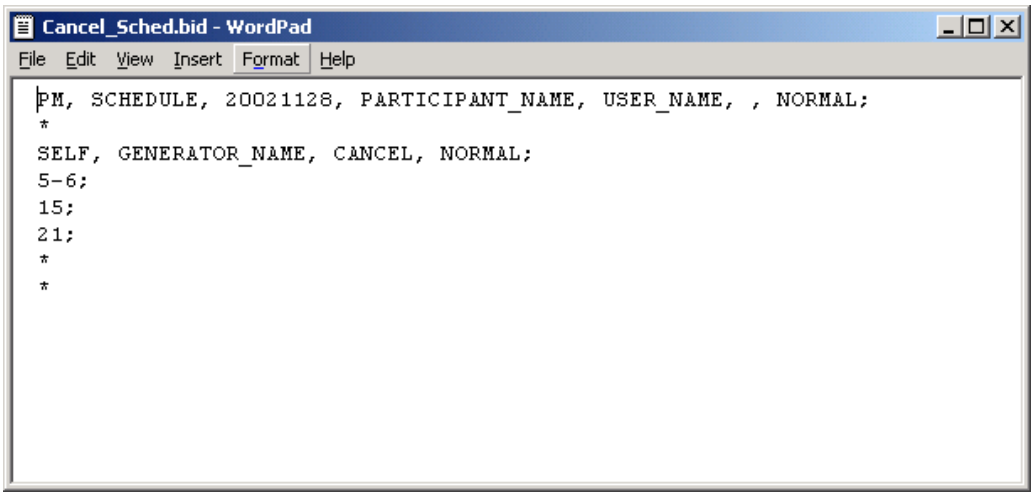

Figure 5-29: Schedule Cancellation File

5.2.7 Energy Tutorials

The following tutorials demonstrate to the user how to submit, retrieve, and cancel Energy Bids and Offers. The four types of resource that can be used when submitting *bids* and *offers* into the Energy Market are:

- *Dispatchable Generators*
- *Dispatchable Loads*
- Injections
- Offtakes

For this tutorial however, only *Dispatchable Generators* and *Dispatchable Loads* will be used.

Energy Bid/Offer Submission (HTML)

Energy Bids and Offers may be submitted during any open *Market Window*. For this tutorial however, only day ahead *bids* and *offers* will be submitted. Short Notice *bid*/*offer* submissions will be covered later in this document.

Energy Bid Submission (HTML)

Energy Bids are submitted for *Load Resources*. These can either be *Dispatchable Loads* within Ontario or Offtake *bids* that result in energy being dispatched outside of Ontario. If an Offtake bid is submitted, the resource type must be a CSP-SINK and a *Tie Point* must be defined (see Appendix A for a list of CSP's and MSP's). This tutorial does not cover the submission of Offtakes.

1. Select the *RTEM Market Tab*.
2. Ensure that the *Delivery Date* is tomorrow.
3. Select *SUBMIT* from the *Action* pull-down box.
4. Select *NO* from the *Standing Flag* pull-down box.
5. Enter the *Daily Energy Limit*.
6. Enter the *Operating Reserve Ramp Rate*.
7. Select *LOAD* in the *Bid/Offer* pull-down box.
8. If known, enter the name of the *Resource* to be used as the *Pricing Point*. If unknown, press the '-i-''flag and choose from the list of resources available.
9. If the bid were an *Injection* or *Offtake*, the *Tie Point ID* field would be populated with the appropriate *Tie Point ID* name.
10. If the Bid were an *Injection* or *Offtake*, the *NERC Tag ID* field would be populated with the allocated unique *NERC Tag ID*.
11. For hours 1 through 12 inclusive, select the *Hour* checkbox.
12. For each of the checked hours, enter a bid, for example:

    (40,0),(40,5),(30,10),(25,15),(20,20),(15,25),(10,30),(5,40)

Note: The following basic rules apply for a Bid:

a) The first price and second price must be the same. (**40**,0),(**40**,5)…

b) The first quantity must be zero. (40,**0**),(…

c) The Prices must always decrease. …),(**30**,10),(**25**,15),(…

d) The Quantities must always increase.),(30,**10**),(25,**15**),(…

e) There is a minimum of 2 *price-quantity pairs* for each hour.

f) There is a maximum of 20 *price-quantity pairs* for each hour.

For each of the checked hours, enter a ramp rate, for example,

(5,5,5),(20,5,4),(40,5,5)

Note: The following basic rules apply for *Ramp Rates*.

g) The *Maximum Ramp Rate Break Point* must be equal to or greater than the maximum energy quantity for that hour.

h) *Ramp Rate Break* quantities must always increase.

13. Click the ***SUBMIT*** button at the bottom of the page.

Figure 5-30: Resource Display (RTEM)

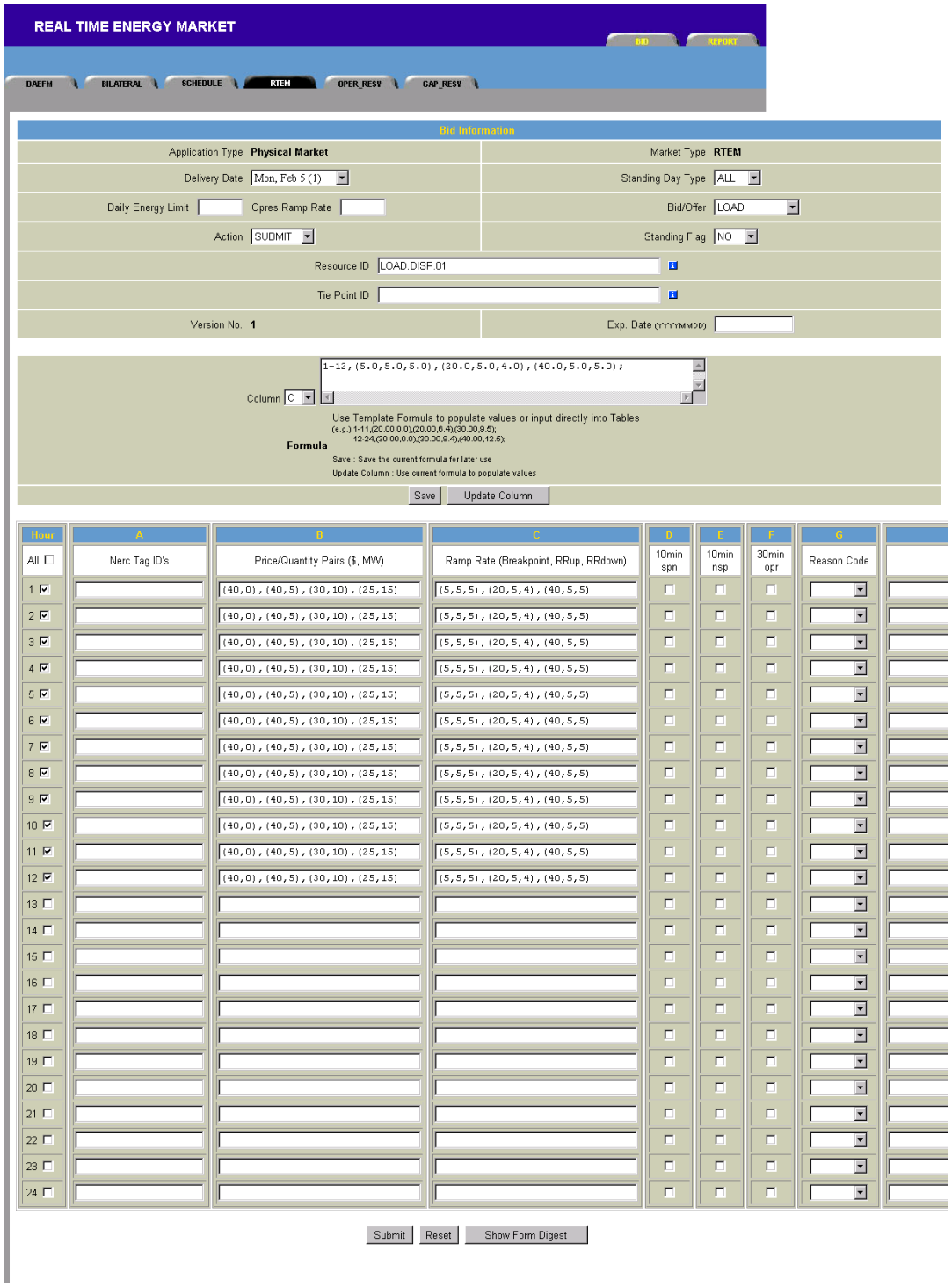

Figure 5-31: Energy Bid Submission (HTML)

MIRP Bid Modification Status Page
Transaction Id 24Gab0
VALIDATION STATUS
PM_SUCCESS: Hour 1 successfully inserted/updated with all validations
PM_SUCCESS: Hour 2 successfully inserted/updated with all validations
PM_SUCCESS: Hour 3 successfully inserted/updated with all validations
PM_SUCCESS: Hour 4 successfully inserted/updated with all validations
PM_SUCCESS: Hour 5 successfully inserted/updated with all validations
PM_SUCCESS: Hour 6 successfully inserted/updated with all validations
PM_SUCCESS: Hour 7 successfully inserted/updated with all validations
PM_SUCCESS: Hour 8 successfully inserted/updated with all validations
PM_SUCCESS: Hour 9 successfully inserted/updated with all validations
PM_SUCCESS: Hour 10 successfully inserted/updated with all validations
PM_SUCCESS: Hour 11 successfully inserted/updated with all validations
PM_SUCCESS: Hour 12 successfully inserted/updated with all validations

Figure 5-32: Energy Bid Submission (HTML) Status Page

Energy Offer Submission (HTML)

Energy Offers are submitted for *Generator Resources*. These can either be *Dispatchable Generators* within Ontario or Injection *bids* that result in Energy being dispatched into Ontario. If an *Injection* bid is submitted, the *Resource Type* must be a *CSP-SOURCE* and a *Tie Point* must be defined (see Appendix A1, CSP's and MSP's). This tutorial does not cover the submission of Injections.

1. Select the *RTEM Market Tab*.
2. Ensure that the *Delivery Date* is tomorrow.
3. Select *SUBMIT* from the *Action* pull-down box.
4. Select *NO* from the *Standing Flag* pull-down box.
5. Enter the *Daily Energy Limit*.
6. Enter the *Operating Reserve Ramp Rate*.
7. Select *GENERATOR* in the *Bid/Offer* pull-down box.
8. If known, enter the name of the *Resource* to be used as the *Pricing Point*. If unknown, press the '-i-''flag and choose from the list of resources available.
9. If the offer were an *Injection* or *Offtake*, the *Tie Point ID* field would be populated with the appropriate *Tie Point ID* name.
10. If the offer were an *Injection* or *Offtake*, the *NERC Tag ID* field would be populated with the allocated unique *NERC Tag ID*.
11. For hours 1 through 12 inclusive, select the *Hour* checkbox.
12. For each of the checked hours, enter a bid, for example

(5,0),(5,5),(10,10),(15,15),(20,20),(25,25),(30,30),(40,40)

Note: The following basic rules apply for an OFFER:

a) The first price and second price must be the same. (**5**,0),(**5**,5)…

b) The first quantity must be zero. (5,**0**),(…

c) The Prices must always increase. …),(**15**,15),(**20**,20),(…

d) The Quantities must always increase.),(15,**15**),(20,**20**),(…

e) There is a minimum of 2 *price-quantity pairs* for each hour.

f) There is a maximum of 20 *price-quantity pairs* for each hour.

13. For each of the checked hours, enter a ramp rate, for example,

(5,5,5),(20,5,4),(40,5,5)

Note: The following basic rules apply for *Ramp Rates:*

a) The *Maximum Ramp Rate Break Point* must be equal to or greater than the maximum energy quantity for that hour.

b) *Ramp Rate Break* quantities must always increase.

14. Click the ***SUBMIT*** button at the bottom of the page.

Figure 5-33: Resource Display (RTEM)

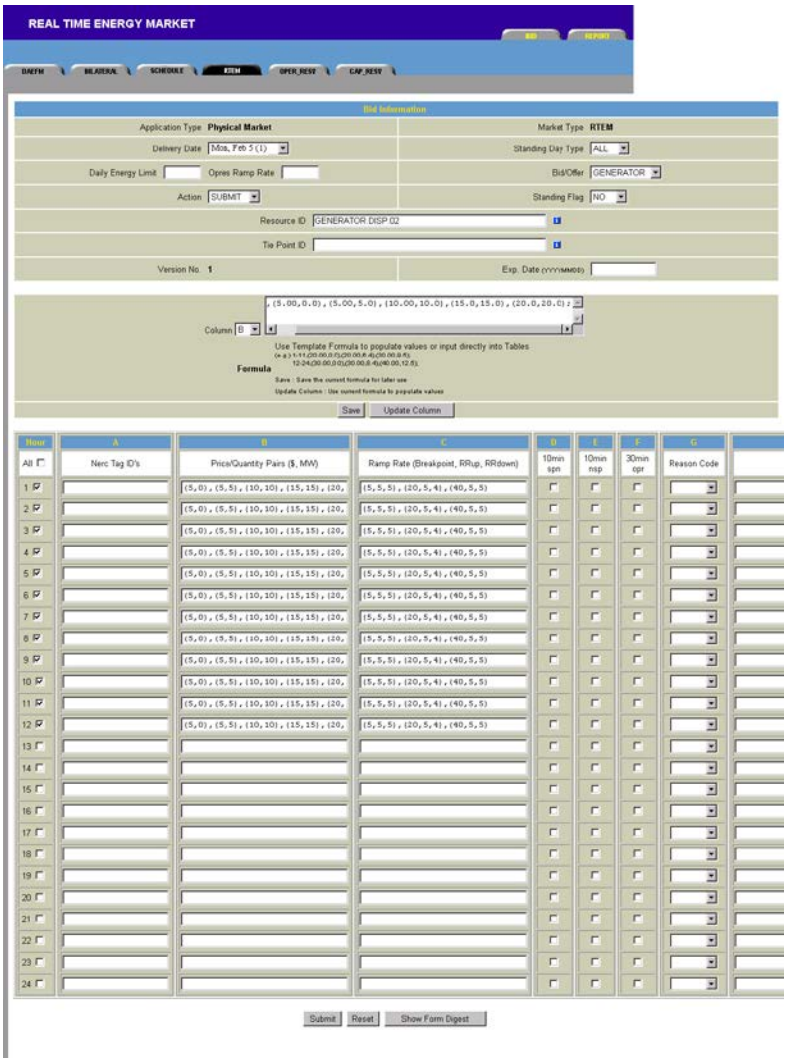

Figure 5-34: Energy Offer Submission (HTML)

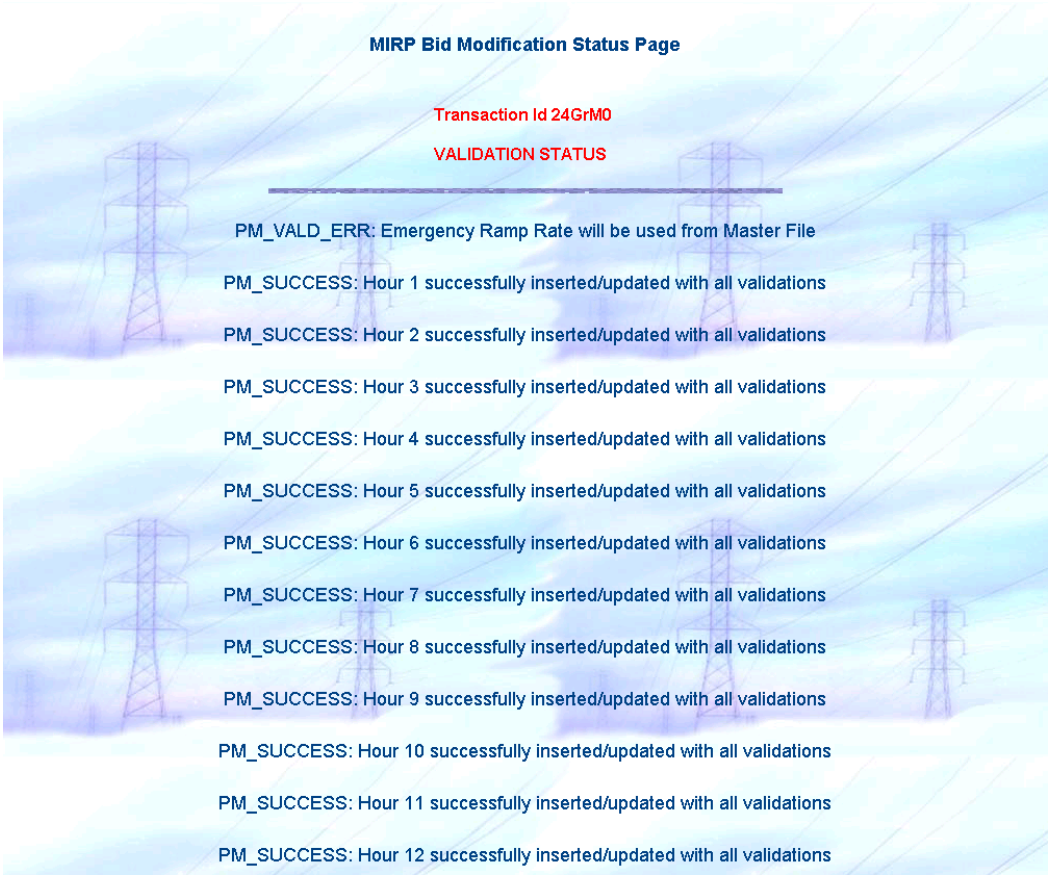
MIRP Bid Modification Status Page
Transaction Id 24GrM0
VALIDATION STATUS
PM_VALD_ERR: Emergency Ramp Rate will be used from Master File
PM_SUCCESS: Hour 1 successfully inserted/updated with all validations
PM_SUCCESS: Hour 2 successfully inserted/updated with all validations
PM_SUCCESS: Hour 3 successfully inserted/updated with all validations
PM_SUCCESS: Hour 4 successfully inserted/updated with all validations
PM_SUCCESS: Hour 5 successfully inserted/updated with all validations
PM_SUCCESS: Hour 6 successfully inserted/updated with all validations
PM_SUCCESS: Hour 7 successfully inserted/updated with all validations
PM_SUCCESS: Hour 8 successfully inserted/updated with all validations
PM_SUCCESS: Hour 9 successfully inserted/updated with all validations
PM_SUCCESS: Hour 10 successfully inserted/updated with all validations
PM_SUCCESS: Hour 11 successfully inserted/updated with all validations
PM_SUCCESS: Hour 12 successfully inserted/updated with all validations

Figure 5-35: Energy Offer Submission (HTML) Status Page

Energy Bid/Offer Retrieval/Submission (ASCII)

Energy Bid/Offer Retrieval (ASCII)

The following tutorial demonstrates the retrieval of an Energy Bid and Offer to a text file and then the resubmission of that text file for different hours.

1. Select the *Main BID Tab* to display the Energy Market GUI *Workspace*.
2. In the *Action* window,
    a) Select the *Template* radio button.
    b) Select the *Retrieve* radio button.
    c) Select *Full* in the pull-down box.
    d) Click the ***BROWSE…*** button and enter a filename and location for the download file.
3. In the *Application* window,
    a) Select *Physical* in the *Market Type* pull-down box.
    b) Select the *Delivery Date* as tomorrow.
4. For hours 1 through 12 inclusive, select the *Hour* checkbox.
5. In the *Physical Market Window (RTEM Section),*
    a) Select the *RTEM* checkbox.
    b) Select *GENERATOR* and *LOAD* in the *Bid Type* list box.

Note: Only some of the details are provided. This is because both a Bid and Offer are to be retrieved in this tutorial. Remember that this is only possible when retrieving to a file unless the query only yields a single result.

6. Click the ***SUBMIT*** button at the bottom of the page.

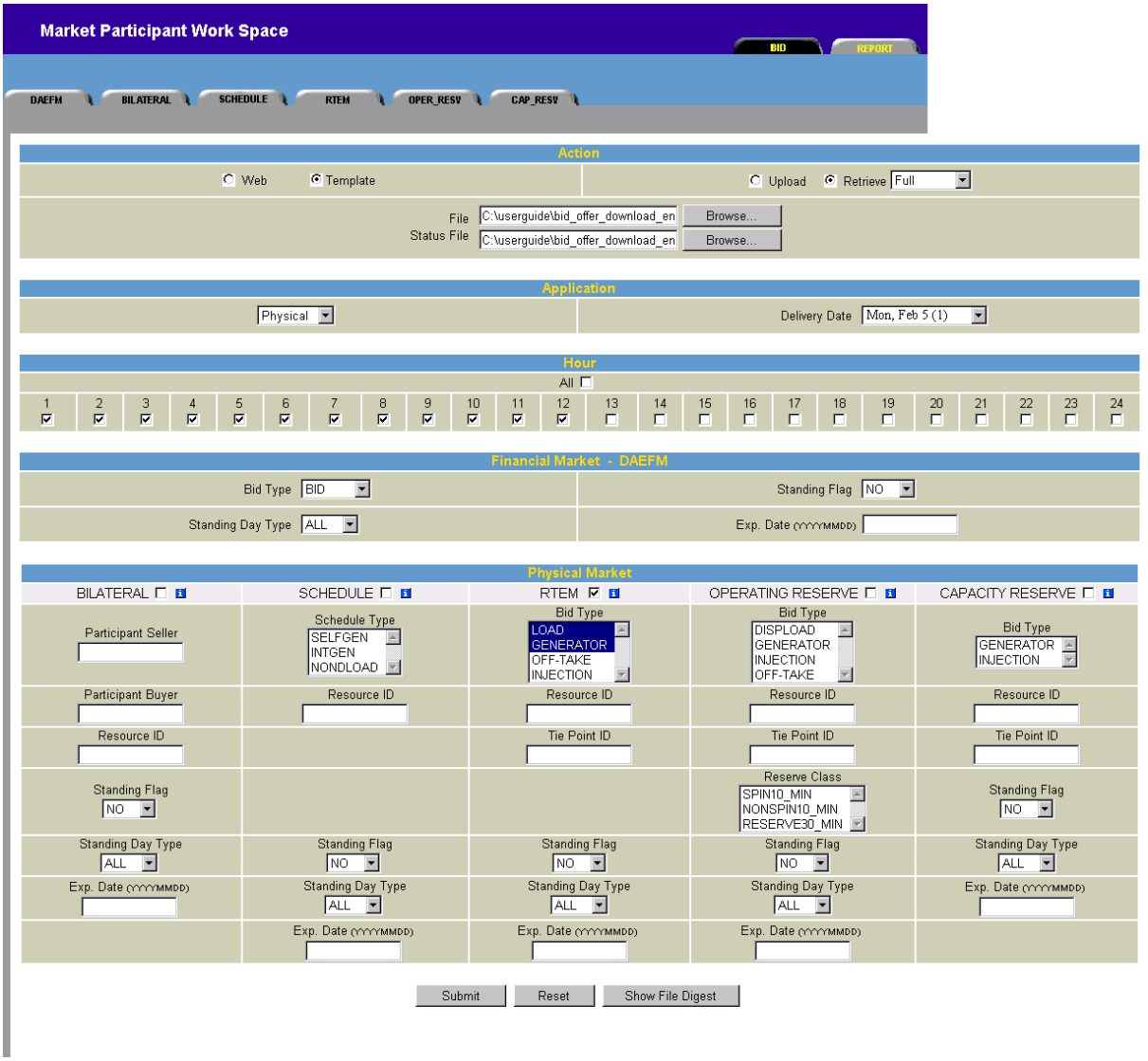

Figure 5-36: Energy Bid/Offer Retrieval/Submission (ASCII)

Figure 5-37: Download Request Successful Dialog

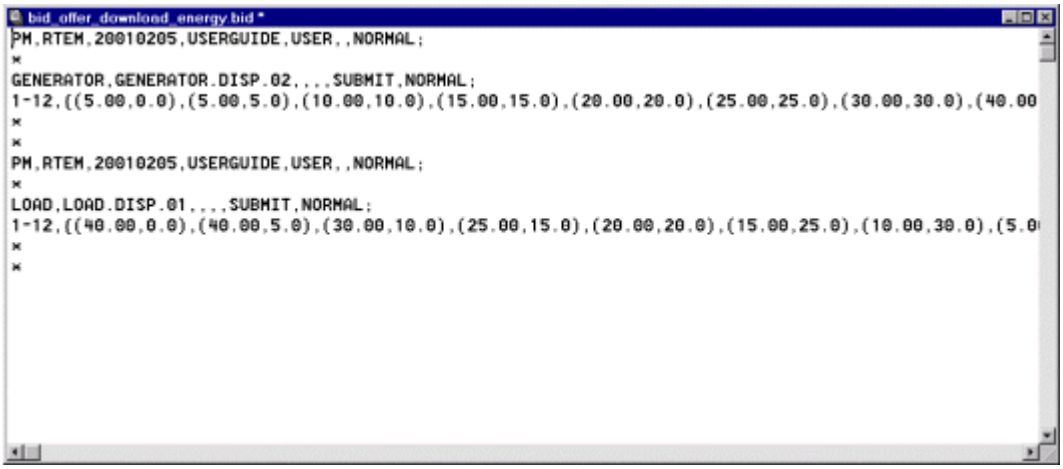

Figure 5-38: Downloaded Energy Bid/Offer File

Energy Bid/Offer Submission (ASCII)

The following tutorial demonstrates to the user how to upload an ASCII Text File.

1. In a suitable text editor, PFE for example, modify the previously downloaded file so that the hours 13-24 are submitted.
2. Save the file as a different filename.
3. In the MPI, select the *Main BID Tab* to display the Energy Market GUI *Workspace*.
4. In the *Action* window,
   a) Select the *Template* radio button.
   b) Select the *Upload* radio button.
   c) Click the ***BROWSE…*** button and select the modified file.

Note: The location of the *Status File*. By default it is in the same location and has the same filename with an additional *.err* extension.

5. Click the ***SUBMIT*** button at the bottom of the page.

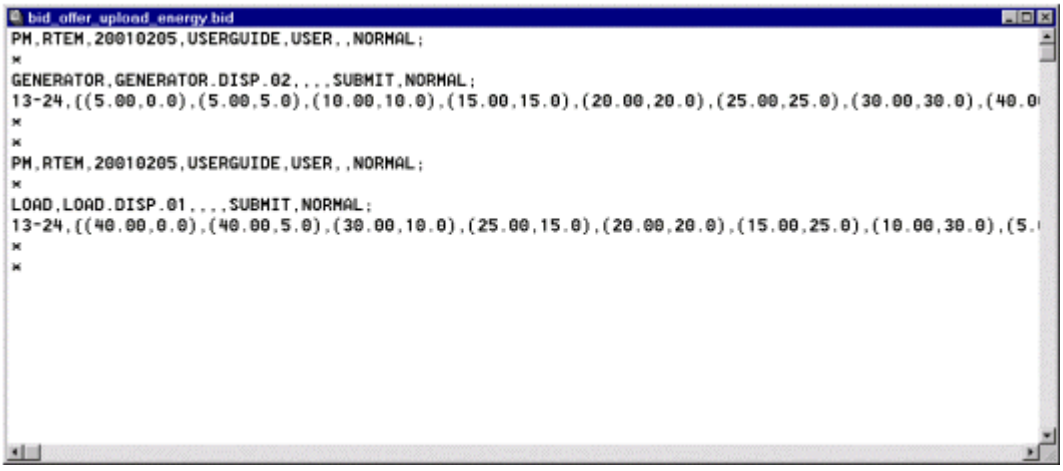

Figure 5-39: Energy Bid/Offer Upload File

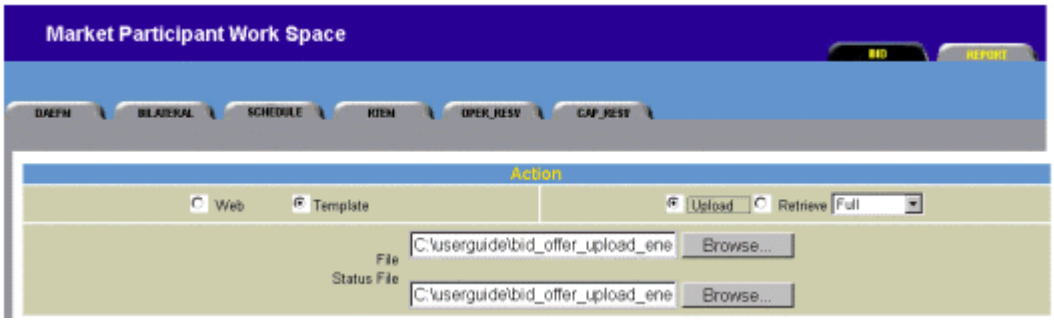

Figure 5-40: Energy Bid/Offer Submission (ASCII)

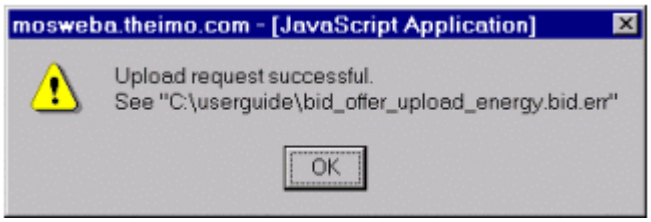

Figure 5-41: Upload Request Successful Dialog

```
Submission Date : 20010204  17:18:45

Parsing Status for Bid # 1 <PM, RTEM, 20010205, USERGUIDE, USER, GENERATOR.DISP.02>      : Success
Inserting PM bid into database <USERGUIDE, USER>         : Permission granted

PM_UALD_ERR: Emergency Ramp Rate will be used from Master File
PM_SUCCESS: Hour 13 successfully inserted/updated with all validations
PM_SUCCESS: Hour 14 successfully inserted/updated with all validations
PM_SUCCESS: Hour 15 successfully inserted/updated with all validations
PM_SUCCESS: Hour 16 successfully inserted/updated with all validations
PM_SUCCESS: Hour 17 successfully inserted/updated with all validations
PM_SUCCESS: Hour 18 successfully inserted/updated with all validations
PM_SUCCESS: Hour 19 successfully inserted/updated with all validations
PM_SUCCESS: Hour 20 successfully inserted/updated with all validations
PM_SUCCESS: Hour 21 successfully inserted/updated with all validations
PM_SUCCESS: Hour 22 successfully inserted/updated with all validations
PM_SUCCESS: Hour 23 successfully inserted/updated with all validations
PM_SUCCESS: Hour 24 successfully inserted/updated with all validations


Parsing Status for Bid # 2 <PM, RTEM, 20010205, USERGUIDE, USER, LOAD.DISP.01>   : Success
Inserting PM bid into database <USERGUIDE, USER>         : Permission granted

PM_SUCCESS: Hour 13 successfully inserted/updated with all validations
PM_SUCCESS: Hour 14 successfully inserted/updated with all validations
PM_SUCCESS: Hour 15 successfully inserted/updated with all validations
PM_SUCCESS: Hour 16 successfully inserted/updated with all validations
PM_SUCCESS: Hour 17 successfully inserted/updated with all validations
PM_SUCCESS: Hour 18 successfully inserted/updated with all validations
PM_SUCCESS: Hour 19 successfully inserted/updated with all validations
PM_SUCCESS: Hour 20 successfully inserted/updated with all validations
PM_SUCCESS: Hour 21 successfully inserted/updated with all validations
PM_SUCCESS: Hour 22 successfully inserted/updated with all validations
PM_SUCCESS: Hour 23 successfully inserted/updated with all validations
PM_SUCCESS: Hour 24 successfully inserted/updated with all validations



     Transaction ID : 24HIj0

     2 bids received
     2 bids accepted in full
     0 bids rejected in full because of syntax errors
     0 bids partially or fully rejected with bid errors
```

Figure 5-42: Energy Bid/Offer Submission (ASCII) Status File

Energy Bid Retrieval (HTML)

The following tutorial demonstrates to the user how to retrieve an Energy Offer into the WEB in HTML format. Note that this tutorial only covers the retrieval of an offer, as the actions required to retrieve a Bid are the same.

1. Select the *Main BID Tab* to display the Energy Market GUI *Workspace*.
2. In the *Action* window,
    a) Select the *Web* radio button.
    b) Select the *Retrieve* radio button.
    c) Select *Full* in the pull-down box.
3. In the *Application* window,
    a) Select *Physical* in the *Market Type* pull-down box.
    b) Select the *Delivery Date* as tomorrow.
4. In the *Hour* window, select the *All* checkbox so that the hours 1 through 24 are selected.
5. In the *Physical Market Window (RTEM Section),*
    a) Select the *RTEM* checkbox.

b) Select *GENERATOR* from the *Bid Type* list box.

c) Enter the *Resource ID*.

Note: Enough information must be supplied to yield a single result. If multiple results are required, the user must download the data to a text file.

6. Click the ***SUBMIT*** button at the bottom of the page.

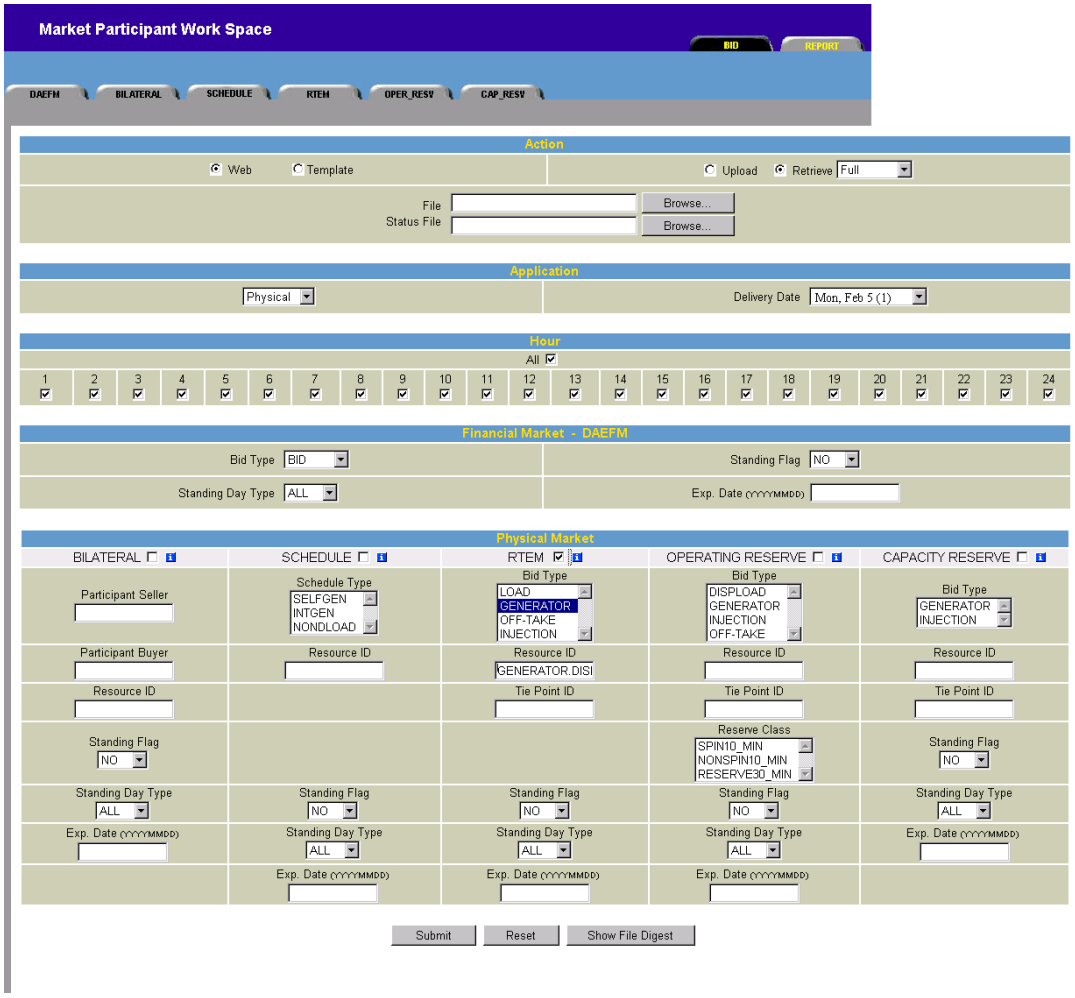

Figure 5-43: Energy Offer/Bid Retrieval (HTML)

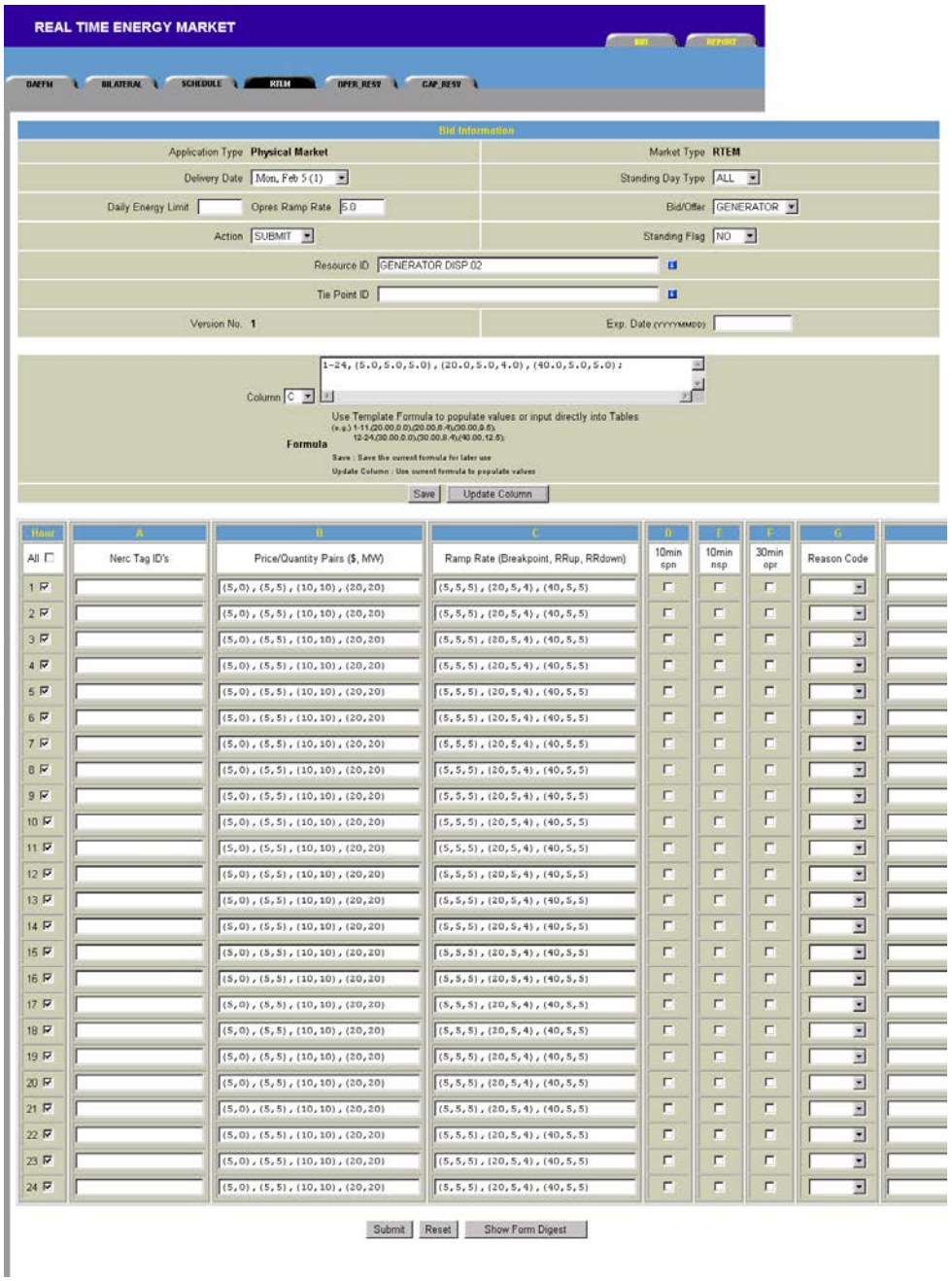

Figure 5-44: Retrieved Energy Offer /Bid (HTML)

Energy Bid Cancellation (HTML)

The following steps show the user how to cancel an Energy Offer by first retrieving the Offer into the web and then submitting those hours as cancelled. The first step is in fact unnecessary as the offer can be cancelled straight from the *RTEM Submission Form*. In cases where the user is dealing with vast amounts of information, it is sometimes better to 'eyeball' the data first to ensure that the correct Offer is cancelled.

1. Repeat the steps detailed in the *Energy Offer Retrieval (HTML)* tutorial but only select 2 hours instead of 24. For example, hour 1 and 2 will be retrieved.
2. In the *Bid Information Window* in the *Bid Submission Form*, change the *Action* to *CANCEL*.
3. Click the ***SUBMIT*** button at the bottom of the page.

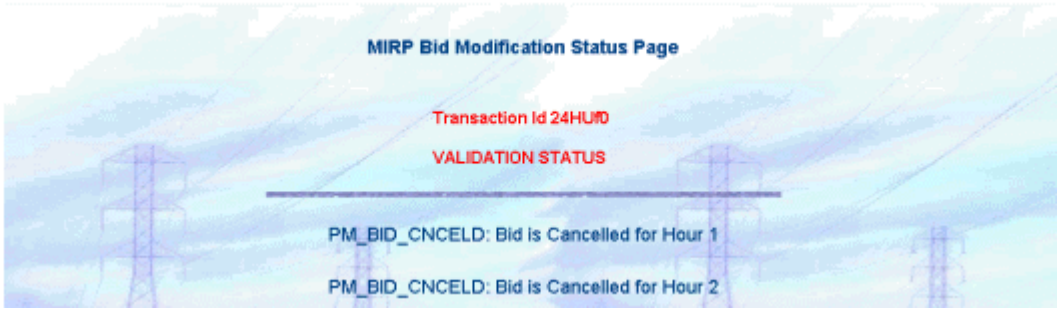
MIRP Bid Modification Status Page
Transaction Id 24HUf0
VALIDATION STATUS
PM_BID_CNCELD: Bid is Cancelled for Hour 1
PM_BID_CNCELD: Bid is Cancelled for Hour 2

Figure 5-45: Energy Bid/Offer Cancellation (HTML) Status Page

If the user wishes, the whole bid can then be retrieved again by following the steps in the *Energy Offer Bid Retrieval (HTML)* tutorial. The user should notice that the hours that were cancelled in this tutorial are no longer part of the bid.

Energy Bid/Offer Cancellation (ASCII)

1. To retrieve the Energy Bids and Offers to file, follow the steps in the *Energy Bid/Offer Retrieval (ASCII)* tutorial.
2. In an appropriate Text Editor, for example PFE, delete the bid body from the bid and offer. These are the lines starting with the market hour.
3. Replace the deleted lines with the individual hours that are to be cancelled. For example:

   1-4; Hours 1 to 4 will be cancelled

   5; Hours 5 and 7 will be cancelled

   7;
4. In the *Bid Header*, the part that reads, **SUBMIT, NORMAL**, change the text *SUBMIT* to *CANCEL*.
5. Save the file as a different filename.
6. To submit the Bid and Offer cancellation, follow the steps in the *Energy Bid/Offer Submission (ASCII)* tutorial.

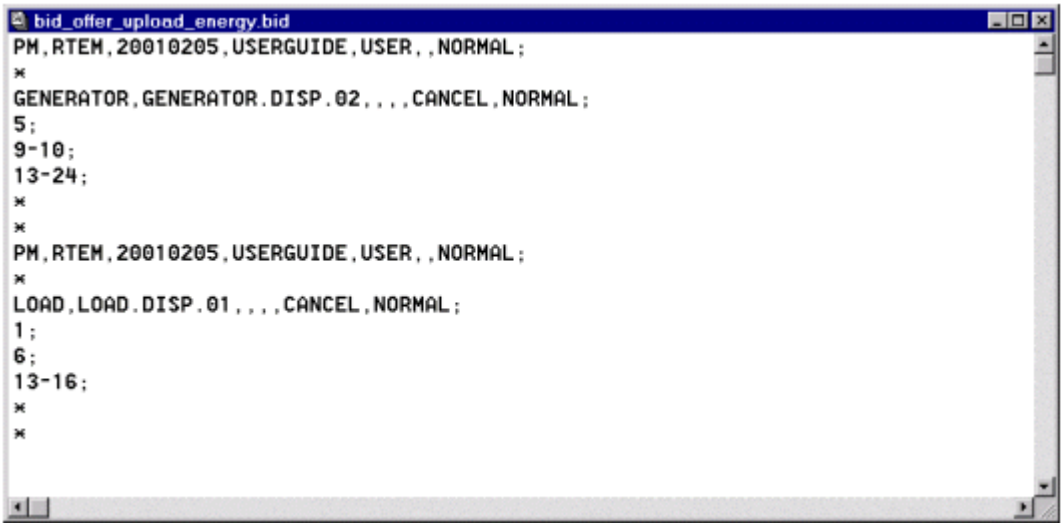

Figure 5-46: Energy Bid/Offer Cancellation File

5.2.8 Operating Reserve (OR) Tutorials

The following tutorials demonstrate to the user how to submit, retrieve, and cancel OR Bids and Offers. There are four types of resource that can be used when submitting *bids* and *offers* into the OR Market:

- *Dispatchable Generators*
- *Dispatchable Loads*
- Injections
- Offtakes

For this tutorial however, only *Dispatchable Generators* and *Dispatchable Loads* will be used.

OR Bid/Offer Submission (HTML)

OR bids and *offers* may be submitted during any open Market Window. For this tutorial however, only day ahead *bids* and offers will be submitted. Short Notice bid/offer submissions will be covered later in this document.

OR Bid Submission (HTML)

OR Bids are submitted for *Load Resources*. These can either be *Dispatchable Loads* within Ontario or Offtake *bids* that result in Energy being dispatched outside of Ontario. If an Offtake bid is submitted, the *Resource Type* must be a *CSP-SINK* and a *Tie Point* must be defined (see Appendix A for a listing of CSP's and MSP's). This tutorial does not cover the submission of Offtakes.

1. Select the *OPER_RESV Market Tab*.
2. Ensure that the *Delivery Date* is tomorrow.
3. Select *SUBMIT* from the *Action* pull-down box.
4. Select *NO* from the *Standing Flag* pull-down box.
5. Select *LOAD* in the *Bid/Offer* pull-down box.

6. If known, enter the name of the *Resource* to be used as the *Pricing Point*. If unknown, press the "-i-"flag and choose from the list of resources available.
7. If the bid were an *Injection* or *Offtake*, the *Tie Point ID* field would be populated with the appropriate *Tie Point ID* name.
8. Select *10MIN_NONSPIN* from the *Reserve Class* pull-down box.
9. For hours 1 through 12 inclusive, select the *Hour* checkbox.
10. For each of the checked hours, enter a bid, for example:

    (10,0),(10,5),(20,10),(30,15),(40,20)

Note: The following basic rules apply for a BID:

a) The first price and second price must be the same. (**10**,0),(**10**,5),(…
b) The first quantity must be zero. (10,**0**),(10,5),(…
c) The Prices must always increase. …),(**10**,5),(**20**,10),(…
d) The Quantities must always increase. …),(10,**5**),(20,**10**),(…
e) There is a minimum of 2 *price-quantity pairs* for each hour.
f) There is a maximum of 5 *price-quantity pair*s for each hour.

11. For each of the checked hours, enter the *Reserve Loading Point* value.
12. Click the ***SUBMIT*** button at the bottom of the page.

Figure 5-47: Resource Display (OR)

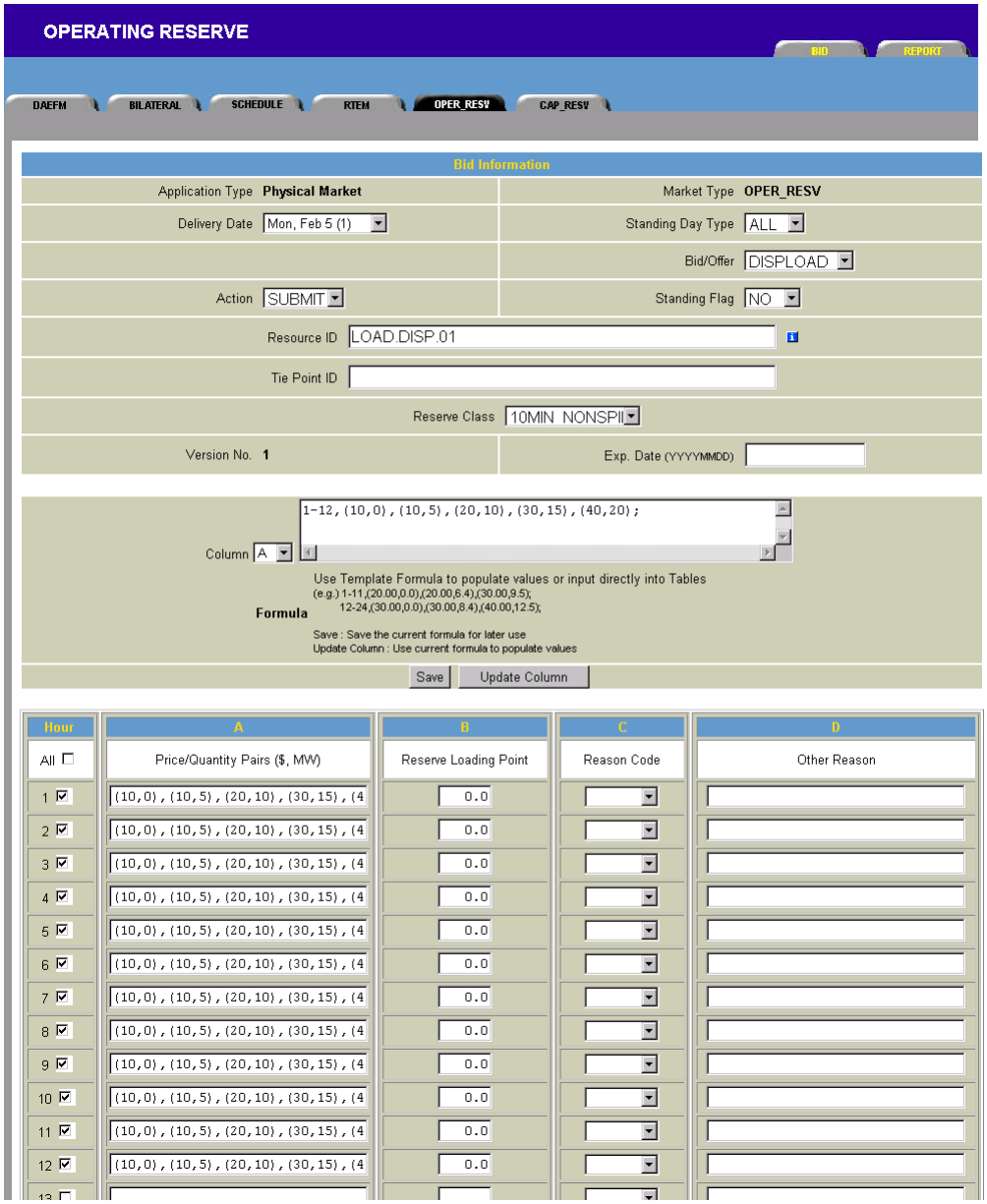

Figure 5-48: OR Bid Submission (HTML)

MIRP Bid Modification Status Page
Transaction Id 24Hxd0
VALIDATION STATUS
PM_SUCCESS: Hour 1 successfully inserted/updated with all validations
PM_SUCCESS: Hour 2 successfully inserted/updated with all validations
PM_SUCCESS: Hour 3 successfully inserted/updated with all validations
PM_SUCCESS: Hour 4 successfully inserted/updated with all validations
PM_SUCCESS: Hour 5 successfully inserted/updated with all validations
PM_SUCCESS: Hour 6 successfully inserted/updated with all validations
PM_SUCCESS: Hour 7 successfully inserted/updated with all validations
PM_SUCCESS: Hour 8 successfully inserted/updated with all validations
PM_SUCCESS: Hour 9 successfully inserted/updated with all validations
PM_SUCCESS: Hour 10 successfully inserted/updated with all validations
PM_SUCCESS: Hour 11 successfully inserted/updated with all validations
PM_SUCCESS: Hour 12 successfully inserted/updated with all validations

Figure 5-49: OR Bid Submission (HTML) Status Page

OR Offer Submission (HTML)

OR offers are submitted for *Generator Resources*. These can either be *Dispatchable Generators* within Ontario or Injection *bids* that result in Energy being dispatched into Ontario. If an Injection bid is submitted, the *Resource Type* must be a *CSP-SOURCE* and a *Tie Point* must be defined (see Appendix A for a listing of CSP's and MSP's). This tutorial does not cover the submission of Injections.

1. Select the OPER_RESV Market Tab.
6. Ensure that the *Delivery Date* is tomorrow.
7. Select *SUBMIT* from the *Action* pull-down box.
8. Select *NO* from the *Standing Flag* pull-down box.
9. Select *GENERATOR* in the *Bid/Offer* pull-down box.
10. If known, enter the name of the *Resource* to be used as the *Pricing Point*. If unknown, press the "-i-"flag and choose from the list of resources available.
11. If the offer is an Injection or Offtake, the Tie Point ID field would be populated with the appropriate Tie Point ID name.
12. Select 10MIN_SPIN from the Reserve Class pull-down box.
13. For hours 1 through 12 inclusive, select the Hour checkbox.
14. For each of the checked hours, enter a bid, for example:

(5,0),(5,5),(10,10),(15,15),(20,20)

Note: The following basic rules apply for an *OFFER*:

a) The first price and second price must be the same. (**5**,0),(**5**,5)…

b) The first quantity must be zero. (5,**0**),(…

c) The Prices must always increase. …),(**10**,10),(**15**,15),(…

d) The Quantities must always increase. …),(10,**10**),(15,**15**),(…

e) There is a minimum of 2 *price-quantity pairs* for each hour.

f) There is a maximum of 5 *price-quantity pairs* for each hour.

15. For each of the checked hours, enter the Reserve Loading Point value.
16. Click the Submit button at the bottom of the page.

Figure 5-50: Resource Display (OR)

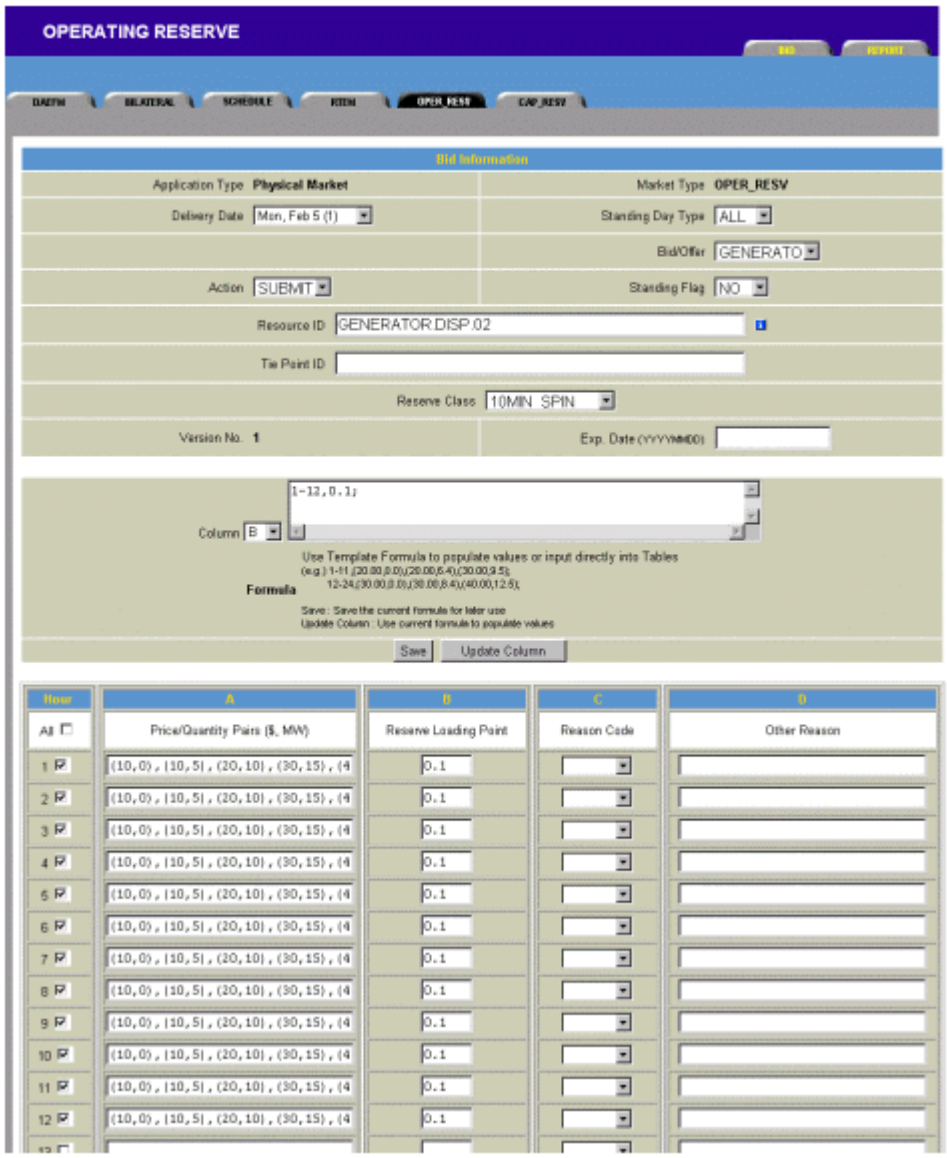

Figure 5-51: OR Offer Submission

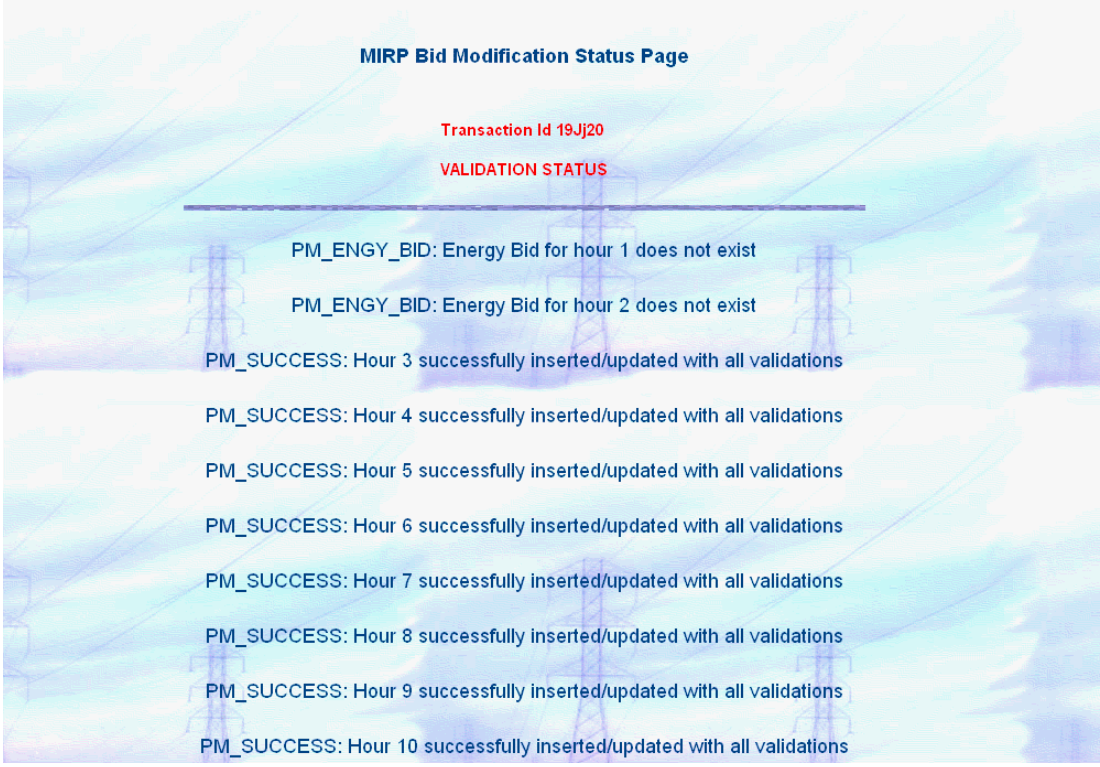
MIRP Bid Modification Status Page
Transaction Id 19Jj20
VALIDATION STATUS
PM_ENGY_BID: Energy Bid for hour 1 does not exist
PM_ENGY_BID: Energy Bid for hour 2 does not exist
PM_SUCCESS: Hour 3 successfully inserted/updated with all validations
PM_SUCCESS: Hour 4 successfully inserted/updated with all validations
PM_SUCCESS: Hour 5 successfully inserted/updated with all validations
PM_SUCCESS: Hour 6 successfully inserted/updated with all validations
PM_SUCCESS: Hour 7 successfully inserted/updated with all validations
PM_SUCCESS: Hour 8 successfully inserted/updated with all validations
PM_SUCCESS: Hour 9 successfully inserted/updated with all validations
PM_SUCCESS: Hour 10 successfully inserted/updated with all validations

Figure 5-52: OR Offer Submission (HTML) Status Page

The user should note that the first two hours of this *Operating Reserve Offer* are rejected. These hours are rejected due to no Energy Offer existing for these first two hours.

OR Bid/Offer Retrieval/Submission (ASCII)

OR Bid/Offer Retrieval (ASCII)

The following tutorial demonstrates the retrieval of an OR Bid and Offer to a text file and then the resubmission of that text file for different hours.

1. Select the Main BID Tab to display the Energy Market GUI Workspace.
2. In the *Action* window,
    a) Select the *Template* radio button.
    b) Select the *Retrieve* radio button.
    c) Select *Full* in the pull-down box.
    d) Click the ***BROWSE…*** button and enter a filename and location for the download file.
3. In the *Application* window,
    a) Select *Physical* in the *Market Type* pull-down box.
    b) Select the *Delivery Date* as tomorrow.
4. For hours 1 through 12 inclusive, select the *Hour* checkbox.
5. In the *Physical Market Window (Operating Reserve* section),
    a) Select the *OPERATING RESERVE* checkbox.
    b) Select *GENERATOR* and *DISPLOAD* in the *Bid Type* list box.

Note: Only some of the details are provided. This is because both a Bid and Offer are to be retrieved in this tutorial. Remember that this is only possible when retrieving to a file unless the query only yields a single result.

6. Click the ***SUBMIT*** button at the bottom of the page.

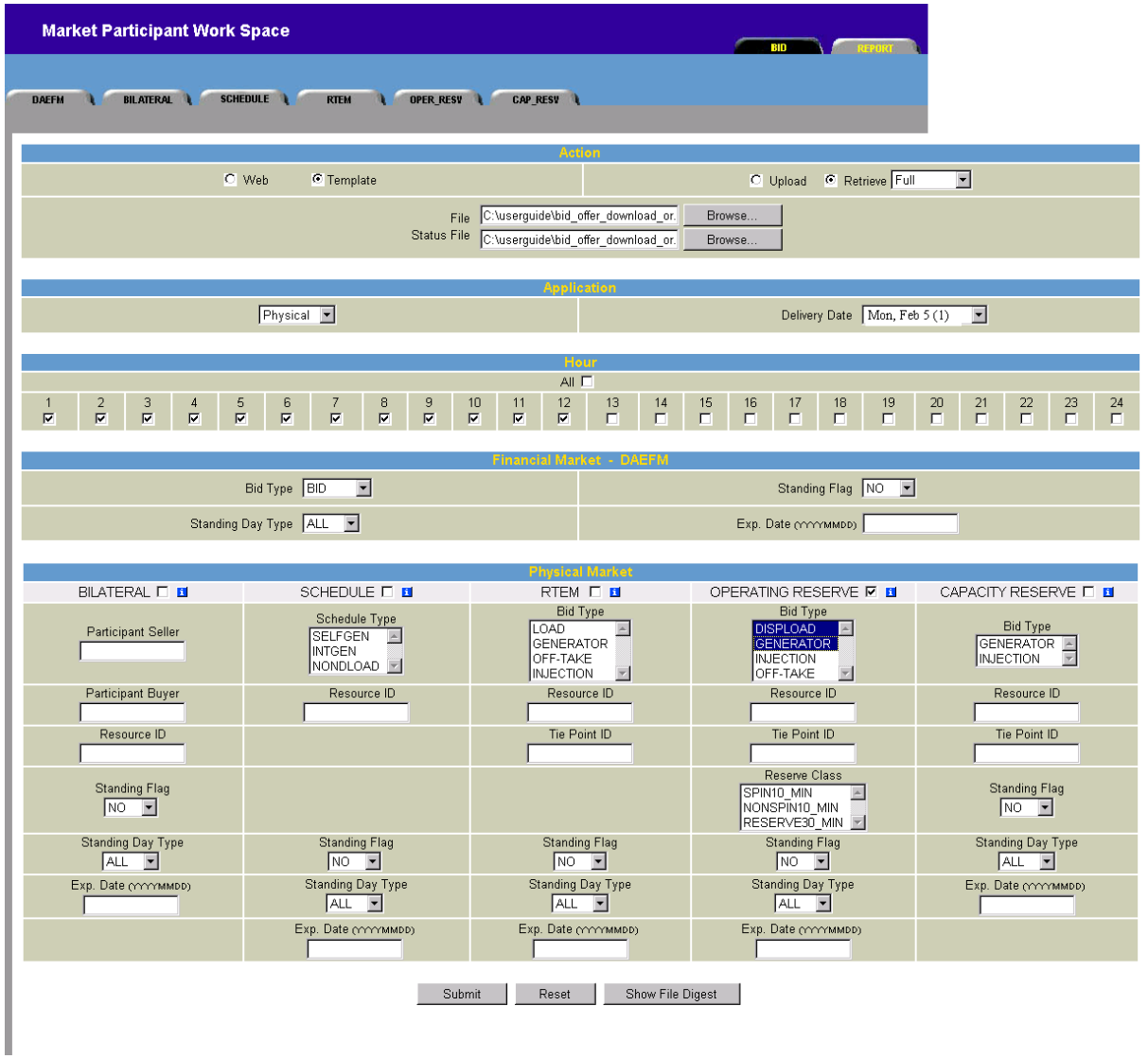

Figure 5-53: OR Bid/Offer Retrieval/Submission (ASCII)

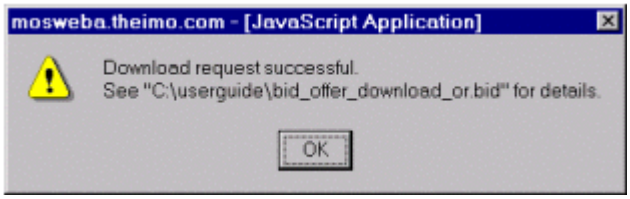

Figure 5-54: Download Request Successful Dialog

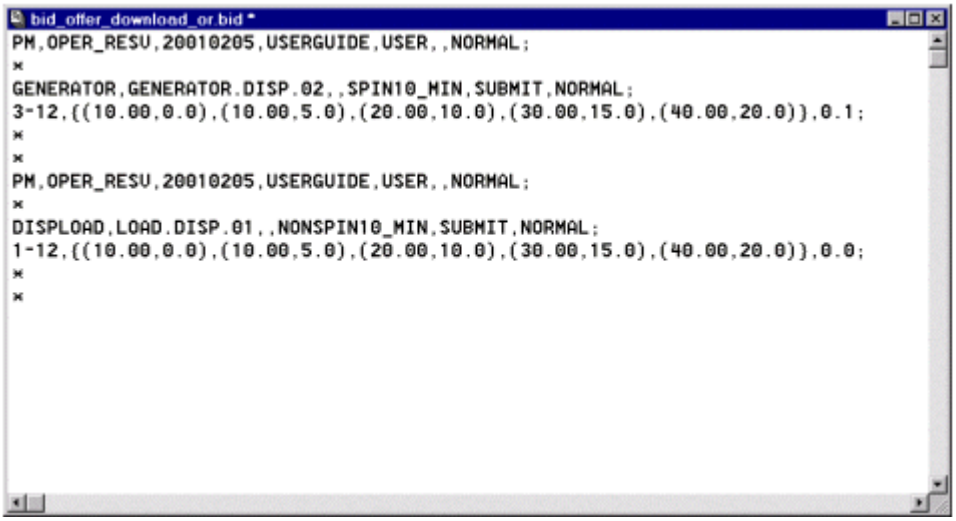

Figure 5-55: Downloaded OR Bid/Offer File

OR Bid/Offer Submission (ASCII)

The following tutorial demonstrates to the user how to upload an ASCII Text File.

1. In a suitable text editor, PFE for example, modify the previously downloaded file so that the hours 13-24 are submitted.
2. Save the file as a different filename.
3. In the MPI, select the *Main BID Tab* to display the Energy Market GUI *Workspace*.
4. In the *Action* window,
    a) Select the *Template* radio button.
    b) Select the *Upload* radio button.
    c) Click the ***BROWSE…*** button and select the modified file.

Note: Notice the location of the *Status File*. By default it is in the same location and has the same filename with an additional *.err* extension.

5. Click the ***SUBMIT*** button at the bottom of the page.

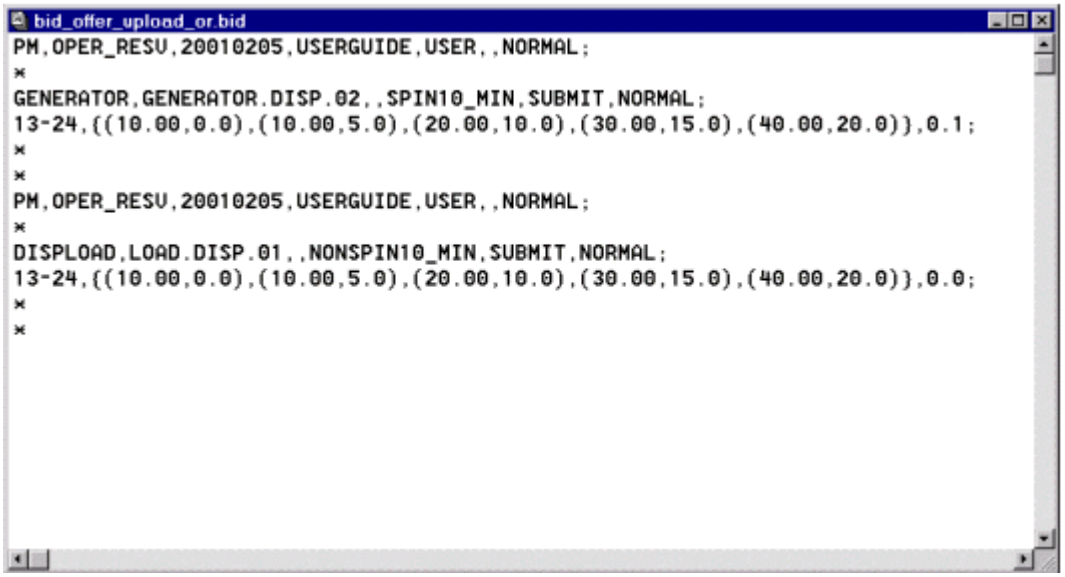

Figure 5-56: OR Bid/Offer Upload File

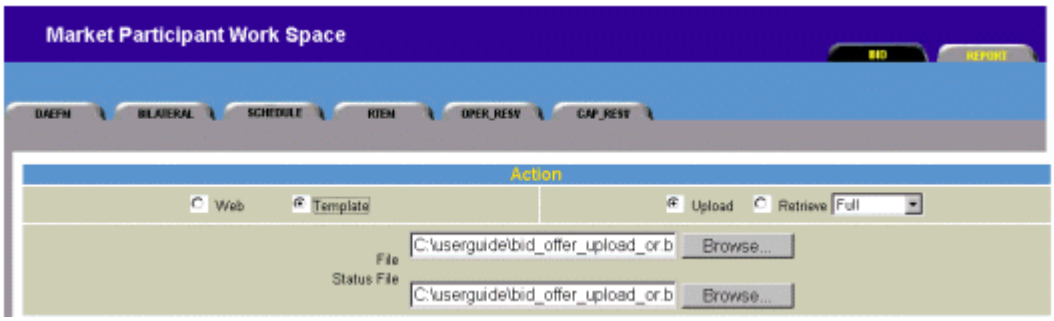

Figure 5-57: OR Bid/Offer Submission (ASCII)

Figure 5-58: Upload Request Successful Dialog

```
Submission Date : 20010204  18:23:52

Parsing Status for Bid # 1 <PM, OPER_RESU, 20010205, USERGUIDE, USER, GENERATOR.DISP.02>         : S
Inserting PM bid into database <USERGUIDE, USER>          : Permission granted

PM_SUCCESS: Hour 13 successfully inserted/updated with all validations
PM_SUCCESS: Hour 14 successfully inserted/updated with all validations
PM_SUCCESS: Hour 15 successfully inserted/updated with all validations
PM_SUCCESS: Hour 16 successfully inserted/updated with all validations
PM_SUCCESS: Hour 17 successfully inserted/updated with all validations
PM_SUCCESS: Hour 18 successfully inserted/updated with all validations
PM_SUCCESS: Hour 19 successfully inserted/updated with all validations
PM_SUCCESS: Hour 20 successfully inserted/updated with all validations
PM_SUCCESS: Hour 21 successfully inserted/updated with all validations
PM_SUCCESS: Hour 22 successfully inserted/updated with all validations
PM_SUCCESS: Hour 23 successfully inserted/updated with all validations
PM_SUCCESS: Hour 24 successfully inserted/updated with all validations


Parsing Status for Bid # 2 <PM, OPER_RESU, 20010205, USERGUIDE, USER, LOAD.DISP.01>       : Success
Inserting PM bid into database <USERGUIDE, USER>          : Permission granted

PM_SUCCESS: Hour 13 successfully inserted/updated with all validations
PM_SUCCESS: Hour 14 successfully inserted/updated with all validations
PM_SUCCESS: Hour 15 successfully inserted/updated with all validations
PM_SUCCESS: Hour 16 successfully inserted/updated with all validations
PM_SUCCESS: Hour 17 successfully inserted/updated with all validations
PM_SUCCESS: Hour 18 successfully inserted/updated with all validations
PM_SUCCESS: Hour 19 successfully inserted/updated with all validations
PM_SUCCESS: Hour 20 successfully inserted/updated with all validations
PM_SUCCESS: Hour 21 successfully inserted/updated with all validations
PM_SUCCESS: Hour 22 successfully inserted/updated with all validations
PM_SUCCESS: Hour 23 successfully inserted/updated with all validations
PM_SUCCESS: Hour 24 successfully inserted/updated with all validations



     Transaction ID : 24INq0

     2 bids received
     2 bids accepted in full
     0 bids rejected in full because of syntax errors
     0 bids partially or fully rejected with bid errors
```

Figure 5-59: OR Bid/Offer Submission (ASCII) Status File

OR Bid Retrieval (HTML)

The following tutorial demonstrates to the user how to retrieve an OR Offer into the WEB in HTML format. Note that this tutorial only covers the retrieval of an Offer, as the actions required to retrieve a Bid are the same.

1. Select the *Main BID Tab* to display the Energy Market GUI *Workspace*.
2. In the *Action* window,
    a) Select the *Web* radio button.
    b) Select the *Retrieve* radio button.
    c) Select *Full* in the pull-down box.
3. In the *Application* window,
    a) Select *Physical* in the *Market Type* pull-down box.
    b) Select the *Delivery Date* as tomorrow.
4. In the *Hour* window, select the *All* checkbox so that the hours 1 through 24 are selected.
5. In the *Physical Market Window (Operating Reserve* section),
    a) Select the *OPERATING RESERVE* checkbox.
    b) Select *GENERATOR* from the *Bid Type* list box.
    c) Enter the *Resource ID*.

Note: Select *10MIN_SPIN* from the *Reserve Class* pull-down box.

Note: Enough information must be supplied to yield a single result. If multiple results are required, the user must download the data to a text file.

6. Click the ***SUBMIT*** button at the bottom of the page.

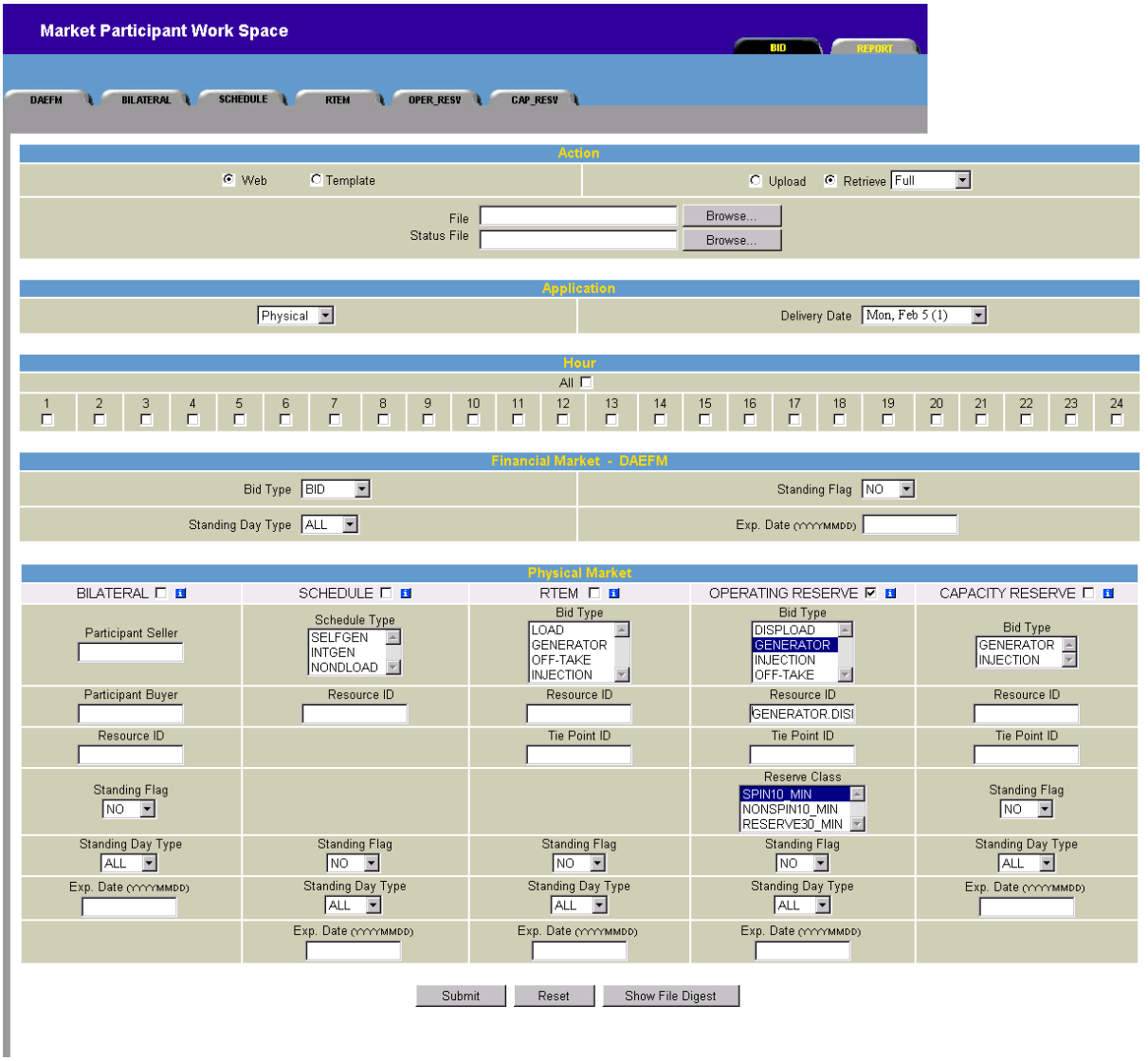

Figure 5-60: OR Offer Retrieval (HTML)

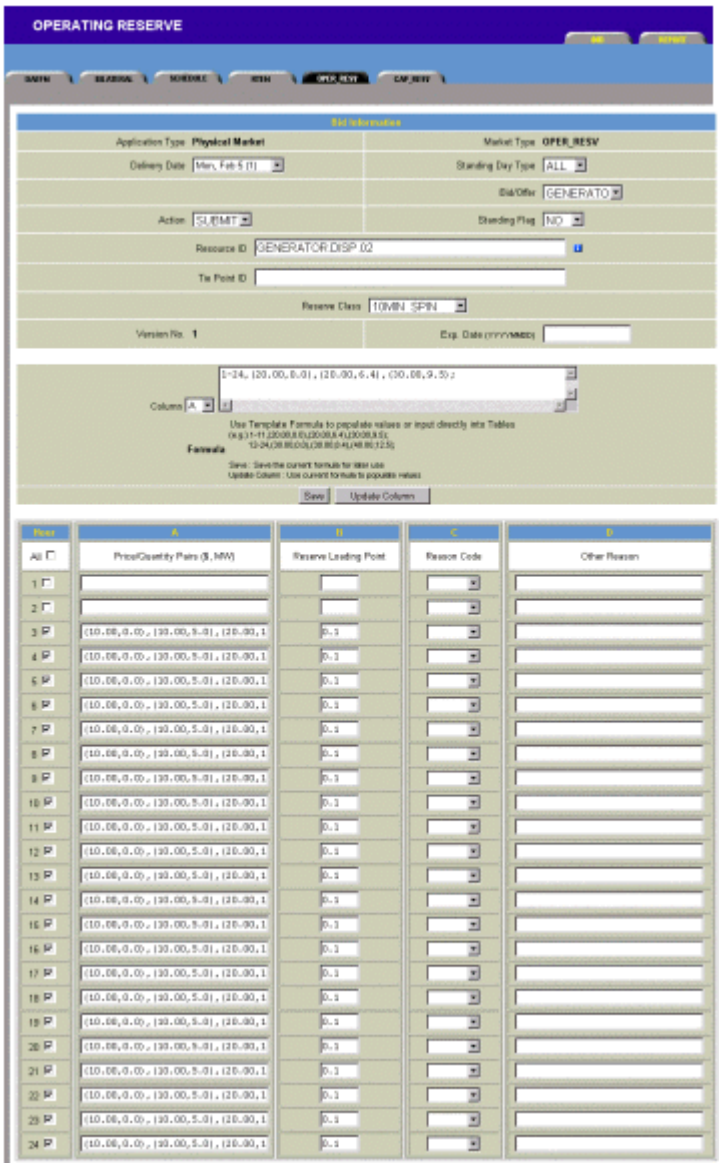

Figure 5-61: Retrieved OR Offer (HTML)

OR Bid Cancellation (HTML)

The following steps show the user how to cancel an OR Offer by first retrieving the Offer into the web and then submitting those hours as cancelled. The first step is in fact unnecessary as the offer can be cancelled straight from the *RTEM Submission Form*. In cases where the user is dealing with vast amounts of information, it is sometimes better to 'eyeball' the data first to ensure that the correct Offer is cancelled.

1. Repeat the steps detailed in the *OR Offer Retrieval (HTML)* tutorial but only select 2 hours instead of 24. For example, hour 1 and 2 will be retrieved.
2. In the *Bid Information Window* in the *Bid Submission Form*, change the *Action* to *CANCEL*.
3. Click the ***SUBMIT*** button at the bottom of the page.

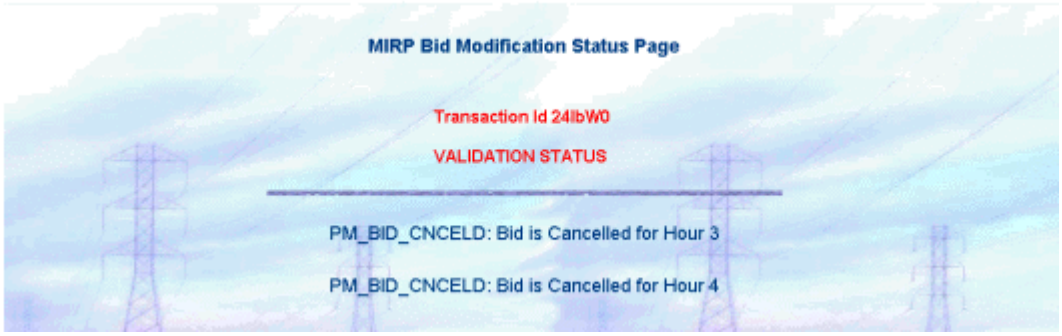
MIRP Bid Modification Status Page
Transaction Id 24IbW0
VALIDATION STATUS
PM_BID_CNCELD: Bid is Cancelled for Hour 3
PM_BID_CNCELD: Bid is Cancelled for Hour 4

Figure 5-62: OR Offer Cancellation (HTML) Status Page

If the user wishes, the whole bid can then be retrieved again by following the steps in the *Energy Offer Bid Retrieval (HTML)* tutorial. The user should notice that the hours that were cancelled in this tutorial are no longer part of the bid.

OR Bid/Offer Cancellation (ASCII)

1. To retrieve the OR Bids and Offers to file, follow the steps in the *OR Bid/Offer Retrieval (ASCII)* tutorial.
2. In an appropriate Text Editor, for example PFE, delete the bid body from the bid and offer. These are the lines starting with the market hour.
3. Replace the deleted lines with the individual hours that are to be cancelled. For example:

   1-4; Hours 1 to 4 will be cancelled

   5; Hours 5 and 7 will be cancelled

   7;
4. In the *Bid Header*, the part that reads, **SUBMIT, NORMAL**, change the text *SUBMIT* to *CANCEL*.
5. Save the file as a different filename.
6. To submit the Bid and Offer cancellation, follow the steps in the *OR Bid/Offer Submission (ASCII)* tutorial.

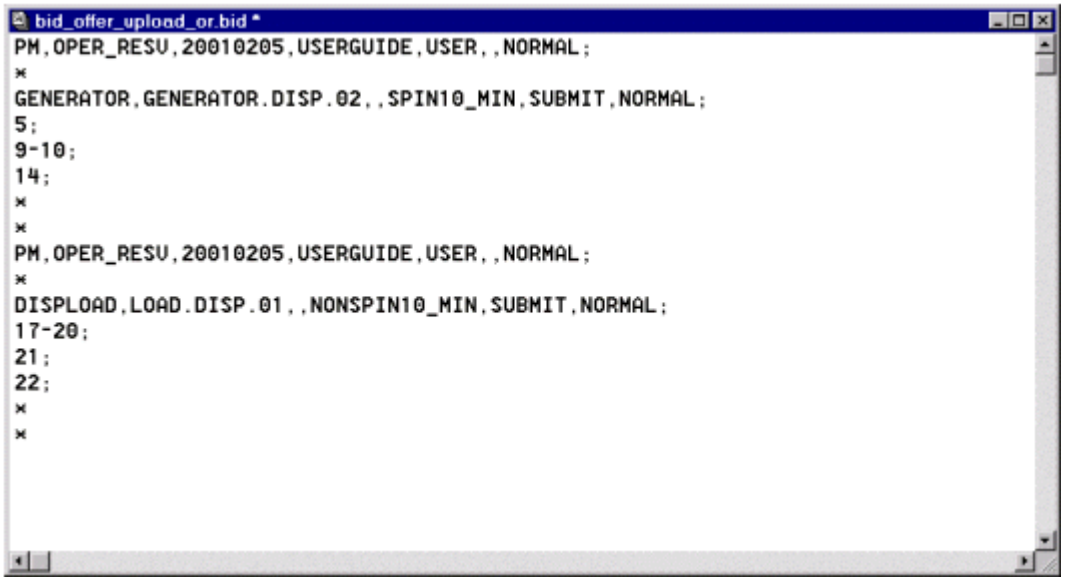

Figure 5-63: OR Bid/Offer Cancellation File

5.2.9 Capacity Reserve

Due to the *Capacity Reserve Market* being suspended, no tutorials are available. This portion of the document will be updated at a later date.

5.3 Summaries

The following tutorial demonstrates the retrieval of a *Summary Report* for all market types.

1. Select the *Main BID Tab* to display the Energy Market GUI *Workspace*.
2. In the *Action* window,
    a) Select the *Web* radio button.
    b) Select the *Retrieve* radio button.
    c) Select *Summary* in the pull-down box.
3. In the *Application* window,
    a) Select *Both* in the *Market Type* pull-down box.
    b) Select the *Delivery Date* as tomorrow.
4. In the *Hour* window, select the *All* checkbox so that the hours 1 through 24 are selected.
5. In the *Financial Market Window*, select *BOTH* in the *Bid Type* pull-down box.
6. In the *Physical Market Window*:
    a) Select the *BILATERAL* checkbox.
    b) Select the *SCHEDULE* checkbox.
    c) Select the *RTEM* checkbox,

d) Select the *OPERATING RESERVE* checkbox.

7. Click the ***SUBMIT*** button at the bottom of the page.

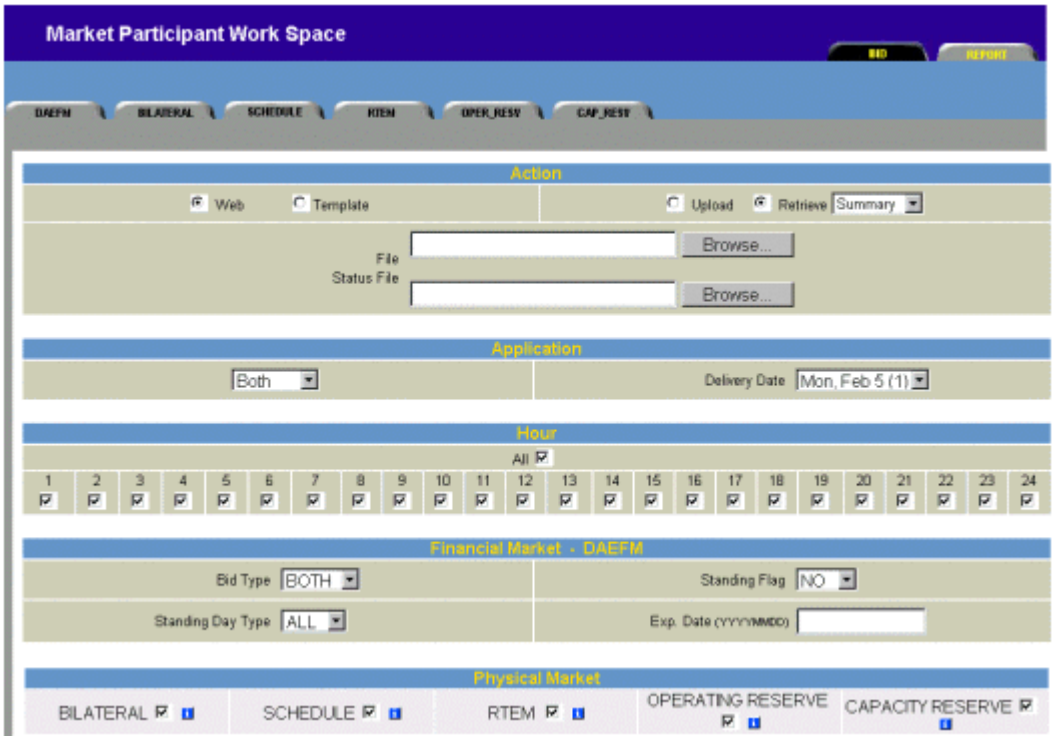

Figure 5-64: Summary Retrieval (HTML)

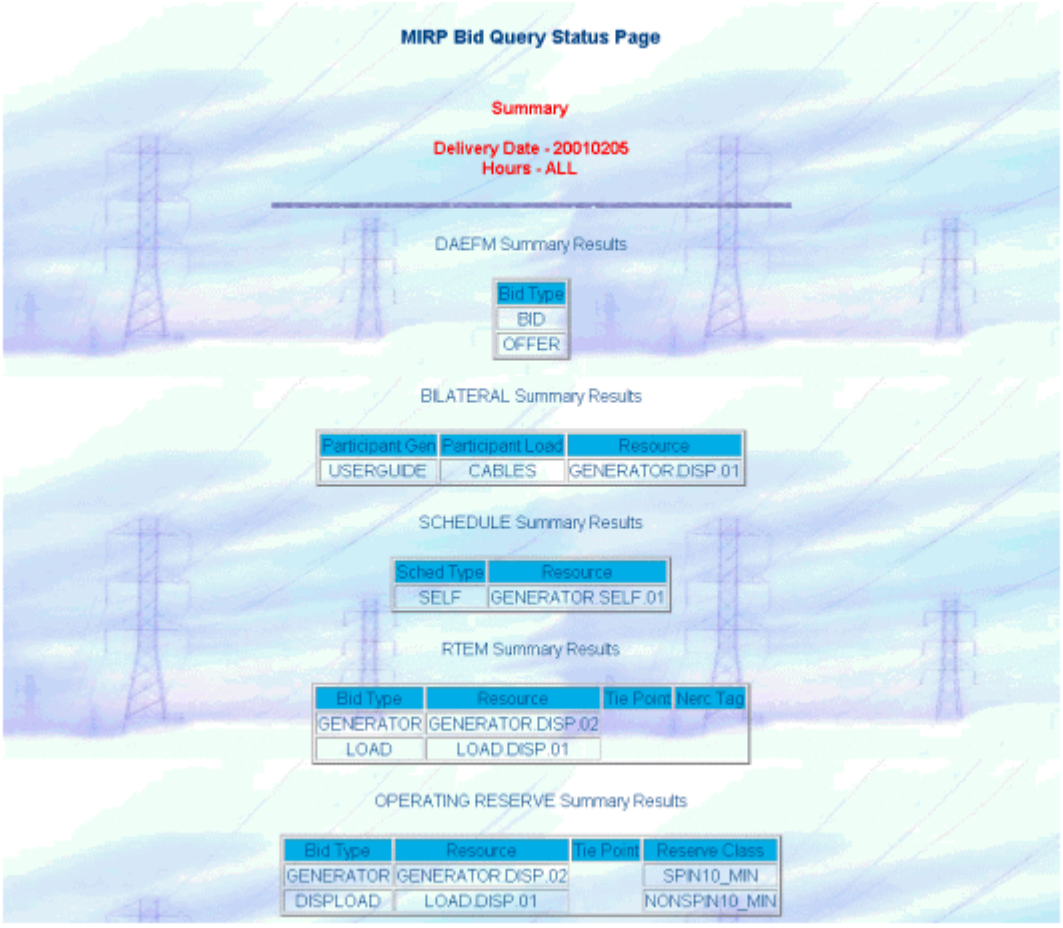

Figure 5-65: Market Summary Display

5.4 Standing Bids

The submission of Standing Bids and Offers (for those markets in which they are available) is done using the same methods as covered in the tutorials for bid and offer submissions, retrievals and cancellations.

All that differs with standing *bids* is the extra controls that must be utilised; *Standing Bid Flag*, *Standing Bid Day* and *Expiry Date*, with extra validation rules about the submission of Standing Bids.

There are two main points that should be considered when using Standing Bids. These are;

- Standing Bids must NOT overlap, nor can they co-exist with other standing *bids* of the same day type. For example:
  - It is not possible to have two standing *bids* of Type *WED*, one that expires this Wednesday and another that takes effect after.
  - It is also not possible to have a Standing Bid of any of the weekly *Day Types*, *MON* through to *SUN* co-existing with a *Standing Bid Type* of *ALL*. If an *ALL* type standing bid is to be submitted, all other Standing Bids for that *Resource* must first be cancelled.

- Standing Bids expire at midnight. This means that if a standing bid of Type *WED* has an expiry date of Tues 16th, it will not be cancelled on Tuesday, but will be for Wednesday's market and will be cancelled at midnight on Wednesday.

5.5 Short Notice Submissions

Short Notice Submissions are *bids* and offers submitted into the *Real Time Energy Market* (*Schedules, Energy* and *Operating Reserve*) within 4 hours of that hourly market closing.

The rules surrounding *bids* and offers being submitted within these timeframes are covered in this document in Section 5.2, *Real Time Energy Market Tutorials*.

This section is provided to show the messages generated when a short notice bid or offer is submitted, accepted by the *IESO* Operator or rejected by the *IESO* Operator.

5.5.1 Short Notice Office Submission

The generated message for short notice submission is the same for all market types. In this example, an Energy Offer was submitted for all 24 hours for the current delivery date. Some hours are closed, and some require operator approval.

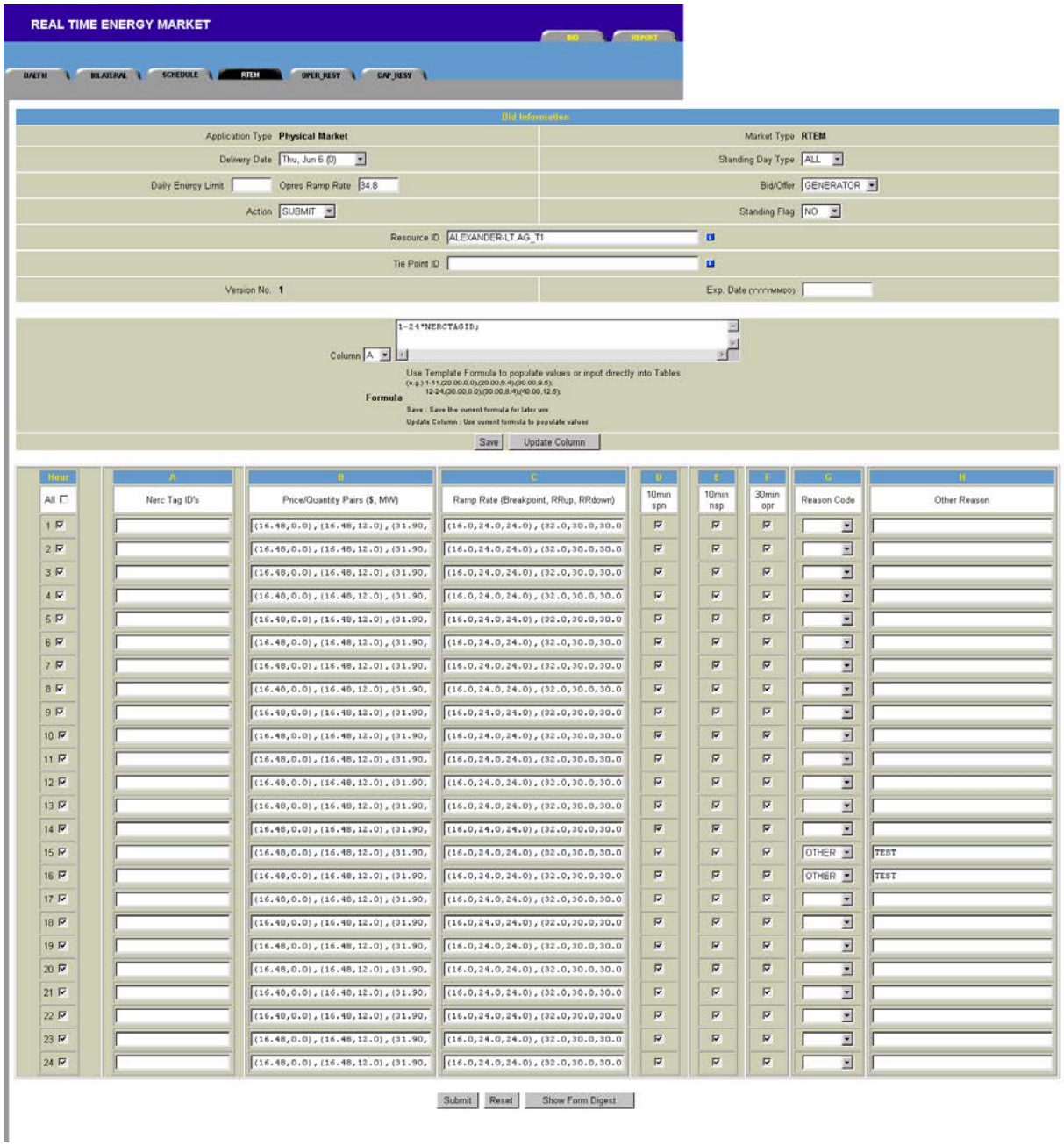

Figure 5-66: Short Notice Energy Offer (HTML)

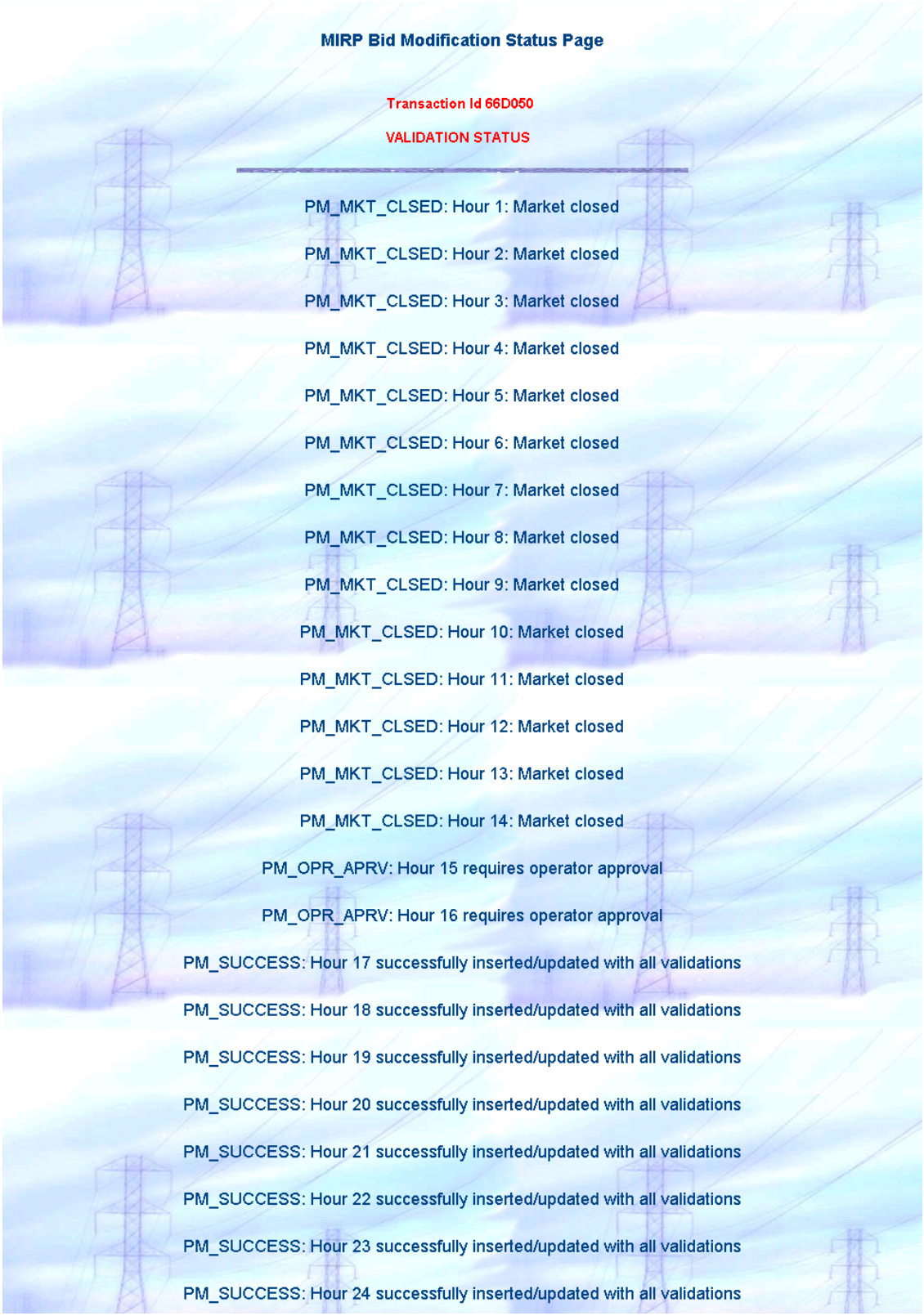
MIRP Bid Modification Status Page
Transaction Id 66D050
VALIDATION STATUS
PM_MKT_CLSED: Hour 1: Market closed
PM_MKT_CLSED: Hour 2: Market closed
PM_MKT_CLSED: Hour 3: Market closed
PM_MKT_CLSED: Hour 4: Market closed
PM_MKT_CLSED: Hour 5: Market closed
PM_MKT_CLSED: Hour 6: Market closed
PM_MKT_CLSED: Hour 7: Market closed
PM_MKT_CLSED: Hour 8: Market closed
PM_MKT_CLSED: Hour 9: Market closed
PM_MKT_CLSED: Hour 10: Market closed
PM_MKT_CLSED: Hour 11: Market closed
PM_MKT_CLSED: Hour 12: Market closed
PM_MKT_CLSED: Hour 13: Market closed
PM_MKT_CLSED: Hour 14: Market closed
PM_OPR_APRV: Hour 15 requires operator approval
PM_OPR_APRV: Hour 16 requires operator approval
PM_SUCCESS: Hour 17 successfully inserted/updated with all validations
PM_SUCCESS: Hour 18 successfully inserted/updated with all validations
PM_SUCCESS: Hour 19 successfully inserted/updated with all validations
PM_SUCCESS: Hour 20 successfully inserted/updated with all validations
PM_SUCCESS: Hour 21 successfully inserted/updated with all validations
PM_SUCCESS: Hour 22 successfully inserted/updated with all validations
PM_SUCCESS: Hour 23 successfully inserted/updated with all validations
PM_SUCCESS: Hour 24 successfully inserted/updated with all validations

Figure 5-67: Short Notice Energy Offer Status Page

5.5.2 Approval of Short Notice Offer

The following figure shows how the participant will be notified when a *Short Notice Offer* is accepted by an *IESO* Operator.

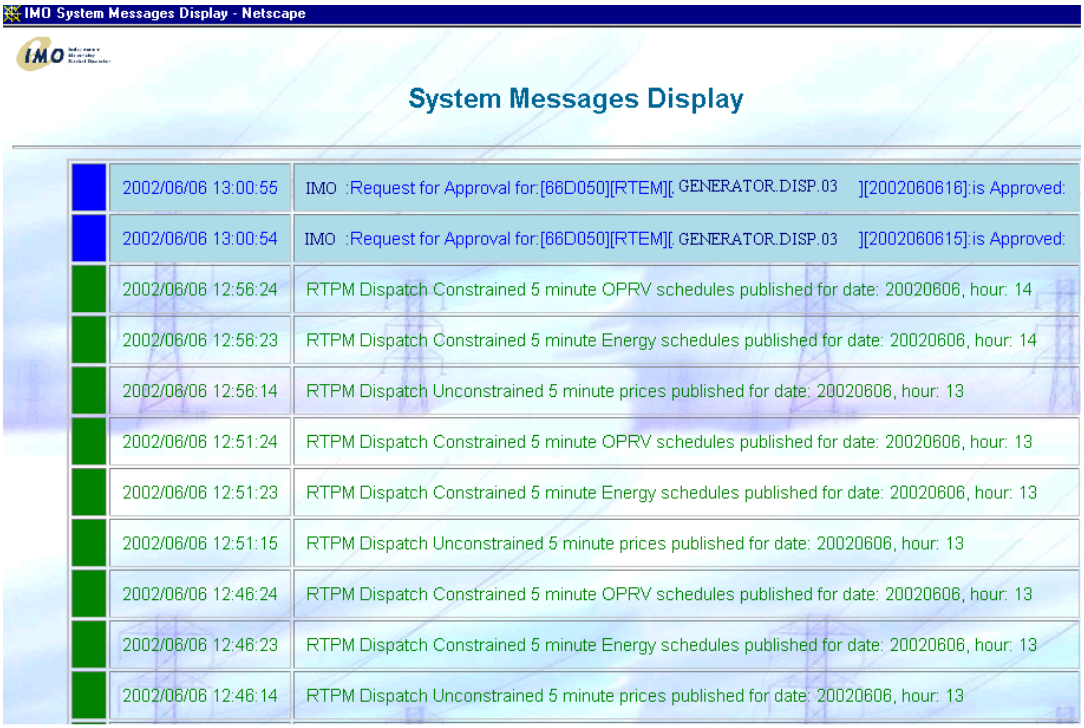
IMO System Messages Display - Netscape
System Messages Display
2002/06/06 13:00:55 IMO :Request for Approval for:[66D050][RTEM][GENERATOR.DISP.03][2002060616]:is Approved:
2002/06/06 13:00:54 IMO :Request for Approval for:[66D050][RTEM][GENERATOR.DISP.03][2002060615]:is Approved:
2002/06/06 12:56:24 RTPM Dispatch Constrained 5 minute OPRV schedules published for date: 20020606, hour: 14
2002/06/06 12:56:23 RTPM Dispatch Constrained 5 minute Energy schedules published for date: 20020606, hour: 14
2002/06/06 12:56:14 RTPM Dispatch Unconstrained 5 minute prices published for date: 20020606, hour: 13
2002/06/06 12:51:24 RTPM Dispatch Constrained 5 minute OPRV schedules published for date: 20020606, hour: 13
2002/06/06 12:51:23 RTPM Dispatch Constrained 5 minute Energy schedules published for date: 20020606, hour: 13
2002/06/06 12:51:15 RTPM Dispatch Unconstrained 5 minute prices published for date: 20020606, hour: 13
2002/06/06 12:46:24 RTPM Dispatch Constrained 5 minute OPRV schedules published for date: 20020606, hour: 13
2002/06/06 12:46:23 RTPM Dispatch Constrained 5 minute Energy schedules published for date: 20020606, hour: 13
2002/06/06 12:46:14 RTPM Dispatch Unconstrained 5 minute prices published for date: 20020606, hour: 13

Figure 5-68: Short Notice Submission Acceptance Message

5.5.3 Rejection of Short Notice Offer

The following screen shot shows how the participant will be notified when a *Short Notice Offer* is rejected by an *IESO* Operator.

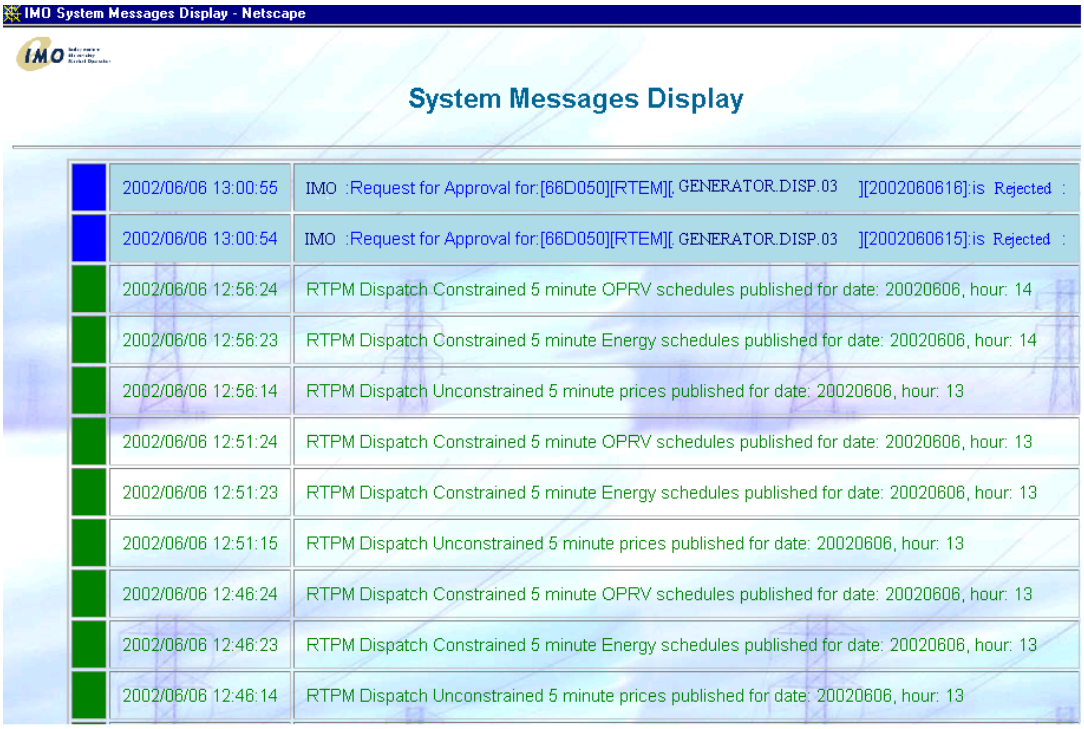
IMO System Messages Display - Netscape
IMO
System Messages Display
2002/06/06 13:00:55 IMO :Request for Approval for:[66D050][RTEM][GENERATOR.DISP.03][2002060616]:is Rejected :
2002/06/06 13:00:54 IMO :Request for Approval for:[66D050][RTEM][GENERATOR.DISP.03][2002060615]:is Rejected :
2002/06/06 12:56:24 RTPM Dispatch Constrained 5 minute OPRV schedules published for date: 20020606, hour: 14
2002/06/06 12:56:23 RTPM Dispatch Constrained 5 minute Energy schedules published for date: 20020606, hour: 14
2002/06/06 12:56:14 RTPM Dispatch Unconstrained 5 minute prices published for date: 20020606, hour: 13
2002/06/06 12:51:24 RTPM Dispatch Constrained 5 minute OPRV schedules published for date: 20020606, hour: 13
2002/06/06 12:51:23 RTPM Dispatch Constrained 5 minute Energy schedules published for date: 20020606, hour: 13
2002/06/06 12:51:15 RTPM Dispatch Unconstrained 5 minute prices published for date: 20020606, hour: 13
2002/06/06 12:46:24 RTPM Dispatch Constrained 5 minute OPRV schedules published for date: 20020606, hour: 13
2002/06/06 12:46:23 RTPM Dispatch Constrained 5 minute Energy schedules published for date: 20020606, hour: 13
2002/06/06 12:46:14 RTPM Dispatch Unconstrained 5 minute prices published for date: 20020606, hour: 13

Figure 5-69: Short Notice Submission Rejection Message

- End of Section -

Appendix A: Known Energy Market GUI Problems

A.1 Internet Explorer

1. A list of known issues for the Energy Market GUI when using Internet Explorer is available on *IESO's* web site at: http://www.ieso.ca/imoweb/ti/ti_MPI-issues.asp.

– End of Section –

Appendix B: Submission Validation Rules & Samples

B.1 Physical Market Offers/Bids (RTEM)

B.1.1 Physical Market Offers/Bids (RTEM) – Submission Validation Rules

Purpose: This is used to specify the bids or offers for various resources like generators, loads, offtakes and injections. This can be used for data submission in any window. This can also be used to view the bid data.

Users: This is used by Market Participants to send their schedule data to the IESO.

File Header Information:
<APPLICATION_TYPE>,<MARKET_TYPE>,<DELIVERY_DATE>,<PARTICPANT_ID>,<USER_ID,
<VERSION_NO>,<MODE>;
---
*
Bid Header Information:
<BID_TYPE>,<RESOURCE_ID>,<TIEPOINT_ID>,<DAILY_ENERGY_LIMIT>,<OPRES_RAMP_RATE>,<CANCEL_FLAG>,<STANDING_BID_FLAG>,[<STANDING_DAY_TYPE>],[<EXPIRY_DATE>];

Bid Body Information:
<HOUR_RANGE>,<NERCTAG_ID>,{(<PRICE>,<QUANTITY>)},{(<RR_QUANTITY>,<RR_UP>,<RR_DOWN>)},<10MIN_SPIN_OPRES>,<10MIN_NON_SPIN_OPRES>,<30MIN_OPRES>,<SPEED_NO_LOAD_COST>,<STARTUP_COST>,[<REASON_FOR_CHANGE>],[‘<OTHER_REASONS>‘];
---
*

\\Field Formats and Validation Rules:

Template Field	Field Format and Validation Rules
<APPLICATION_TYPE>	‘2-char’ will be ‘PM’ for Physical Market.
<MARKET_TYPE>	‘10-char ‘ will be ‘RTEM’ for ‘Real Time Energy Market’
<DELIVERY_DATE>	‘8-char’ will be the dispatch date in the format of ‘YYYYMMDD’. When submitting Standing Data (i.e. STANDING_BID_FLAG = ‘STANDING’), this field should be set to today’s date. Note, however, that this field is ignored for the purpose of Standing Data entry validation. The date used for Standing Data entry validation is always (today’s date +2).
<PARTICIPANT_ID>	12-char’ will be the name of participant. Must be a valid participant in the Master File.
<USER_ID>	‘12-char’ will be the name of user. Must be a valid user in the Master File associated to the Participant.
<VERSION_NO>	‘6-char’ will be the version of template and will be validated against the current version of the MOS Software. Currently not used.
<MODE>	‘6-char’ will indicate if the template is used only for testing or if it has real-time data. The valid values for <MODE> are ‘NORMAL’ and ‘TEST’.
<BID_TYPE>	‘10-char’. Valid values are ‘GENERATOR’, ‘LOAD’, ‘OFFTAKE’ ‘INJECTION’.

Template Field	Field Format and Validation Rules
<RESOURCE_ID>	'32-char' will be name of resource. Must be a valid resource in the Master File associated with the participant. If <BID_TYPE> is 'INJECTION', must be any valid Constrained Scheduling Point (CSP) SOURCE. If <BID_TYPE> is 'OFFTAKE', must be any valid CSP SINK.
<TIEPOINT_ID>	'32-char' If <BID_TYPE> is 'OFFTAKE' or 'INJECTION' then a valid Tiepoint ID associated with the CSP must be entered. Otherwise NULL (nothing) must be entered.
<DAILY_ENERGY_LIMIT>	'8-char' (999999.9) number indicating the daily energy limit. If <BID_TYPE> is 'LOAD' or 'OFFTAKE', then NULL (nothing) must be entered. If <BID_TYPE> is 'GENERATOR' or 'INJECTION', then the field value is optional (if entered, field value >=0 and <=999999.9).
<OPRES_RAMP_RATE>	'5-char', number format XXX.X MW/Min. If a value is specified: For 'GENERATOR', value must be > 0 and <= 999.9 and <= Maximum Ramp Rate. 1. For 'LOAD', the value must be > 0 and <= 999.9. 2. For 'INJECTION; and 'OFFTAKE' the value is defaulted to 999.9. If no value is specified: 1. For 'GENERATOR', the Maximum Ramp Rate value is used. 2. For 'LOAD', 'INJECTION' and 'OFFTAKE', the value used is 999.9.
<CANCEL_FLAG>	'6-char' Valid values are 'CANCEL' or 'SUBMIT'. If <CANCEL_FLAG> is set to 'CANCEL' then only the delivery hour or hour range is required IF that hour or hour range is within the Initial or Unrestricted market window. If the hour or any portion of the hour range is within the restricted or Mandatory window, or the bid/offer is subject to IESO operator approval due to DACP, the FULL bid structure must be submitted. DACP validation details are described in the Market Participant Graphical User Interface User's Guide.
<STANDING_BID_FLAG>	'10-char' Words 'STANDING' or 'NORMAL' are valid.
<STANDING_DAY_TYPE>	'3-char' will be from 'MON' to 'SUN' OR 'ALL'. Used only when <STANDING_BID_FLAG> is set to 'STANDING'.
<EXPIRY_DATE>	'8-char' optional field in the format of 'YYYYMMDD'. Used only when <STANDING_BID_FLAG> is set to 'STANDING'.
<HOUR_RANGE>	'5-char' will be in the range of 1-24. Indicates an hour, or range of hours. For example, HOUR 2 means hour ending 2.
<NERCTAG_ID>	'32-char'.
<PRICE>	'8-char', number format = $+XXXX.XX. Prices will be non-decreasing for OFFERS. Prices will be non-increasing for BIDS. Minimum MCP < Prices < Maximum MCP. Minimum two price/ quantity pairs. Maximum twenty price /quantity pairs. Price of first pair must equal price of second pair. Up to 24 sets, one for each hour of Market Data. Number of Prices = Number of Quantities.
<QUANTITY>	'6-char ', number format XXXX.X MW. Must be > 0 and <= Max Generator Capacity Minimum two price /quantity pairs.

Template Field	Field Format and Validation Rules
	Maximum twenty price /quantity pairs Quantity of first pair must equal zero. Quantities will be non-negative Quantities are cumulative Quantities must increase monotonically Up to 24 sets, one for each hour of market data For internal generators that have registered Forbidden Regions, the price / quantity pairs must include a quantity equal to each of the lower and upper limits of each Forbidden Region within the offer range. The validation will ensure that no price/quantity curve segment overlaps both a Forbidden Region segment and a non-Forbidden Region segment. Forbidden Regions are defined in the Master File (PLC).
<RR_QUANTITY>	'6-char**'**, number format XXXX.X. First <RR QUANTITY> must be >0.0. Last <RR_QUANTITY> must be >= max MW quantity in PQ pairs. Must increase monotonically. Must be non-negative.
<RR_UP>	'5-char', number format XXX.X. Must be <= Max. Ramp Rate for Resource.
<RR_DOWN>	'5-char', number format XXX.X. Must be <= Max Ramp Rate for Resource. There can be a maximum of 5 sets of 'Ramp Rates' and 'Ramp Break' points. These must be submitted as a set.
<10MIN_SPIN_OPRES>	'1-char'. Valid values are 'Y'/'N'. **Not Used.**
<10MIN_NONSPIN_OPRES>	'1-char'. Valid values are 'Y'/'N'. **Not Used.**
<30MIN_OPRES>	'1-char'. Valid values are 'Y'/'N'. **Not Used.**
<SPEED_NO_LOAD_COST>	'5-char', number format XXXXX Must be >= 0 and <= 99999. Indicates $/hour. Only used if eligible to use three-part offer template. If not using three-part offer template (blank), it will be defaulted to 0.
<STARTUP_COST>	'6-char', number format XXXXXX. Must be >= 0 and <= 99999. Indicates $/start. Only used if eligible to use three-part offer template. If not using three-part offer template (blank), it will be defaulted to 0.
<REASON_FOR_CHANGE>	'10-char' should be one of the predefined list of reasons or 'OTHER'. It is a mandatory field if the hour falls in the Restricted Window and change is > 10% or the hour falls in the Mandatory Window. This field is also required for DACP bids/offers that are subject to IESO operator approval. DACP validation details are described in the Market Participant Graphical User Interface User's Guide. For all other cases this will be an optional field.
<OTHER_REASON>	'128-char' If <REASON_FOR_CHANGE> is specified as 'OTHER' then there must be a <OTHER_REASON> entered. For all other cases this field must not be used.

B.1.2 Physical Market Offers/Bids (RTEM) Sample – Normal

```
PM, RTEM, 20010405, PARTICIPANT, USER, , NORMAL;
*
GENERATOR, GEN1,  , 0.0, 50.0, SUBMIT, NORMAL;
1-18, ,{(10.30,0.0),(10.30,20.2),(18.02,30.2),(28.79,40.3),(42.61,50.4)},
{(26.2,40.0,40.0),(52.4,50.0,50.0)}, Y, Y, Y;
```

```
19-24,, {(10.30,0.0),(10.30,20.2),(18.02,30.2),(28.79,40.3),(42.61,50.4)},
{(26.2,40.0,40.0),(52.4,50.0,50.0)}, Y, Y, Y;
*
*
PM, RTEM, 20010405, PARTICIPANT, USER, , NORMAL;
*
LOAD, LOAD1,  , , 999.9, SUBMIT, NORMAL;
1-5,
,{(121.38,0.0),(121.38,4.2),(98.50,6.3),(87.97,8.4),(78.03,10.5),(68.70,12.6),(59.97,14.7),(51.85,16.8)
,(44.32,18.9),(37.40,21.0),(31.08,23.1),(25.36,25.2),(20.24,27.3),(15.73,29.4),(11.81,31.5),(8.50,33.6)
,(5.79,35.7),(3.68,37.8),(2.18,39.9),(2.17,42.0)}, {(22.0,7.5,7.5),(44.0,9.4,9.4)}, N, Y, Y;
22-24,,
{(120.93,0.0),(120.93,4.2),(98.14,6.3),(87.64,8.4),(77.74,10.5),(68.45,12.6),(59.75,14.7),(51.65,16.8),
(44.16,18.9),(37.26,21.0),(30.96,23.1),(25.26,25.2),(20.17,27.3),(15.67,29.4),(11.77,31.5),(8.47,33.6),
(5.77,35.7),(3.67,37.8),(2.17,39.9),(2.16,42.0)}, {(22.0,7.5,7.5),(44.0,9.4,9.4)}, N, Y, Y;
*
*
PM, RTEM, 20010405, PARTICIPANT, USER, , NORMAL;
*
OFFTAKE, OFFTAKE1, TIEPOINT1, , 999.9, SUBMIT, NORMAL;
1-18,
NERCID123,{(228.01,0.0),(228.01,40.0),(184.69,60.0),(164.74,80.0),(145.93,100.0),(128.26,120.0),(
111.73,140.0),(96.33,160.0),(82.08,180.0),(68.97,200.0),(57.00,220.0),(46.17,240.0),(36.48,260.0),(2
7.93,280.0),(20.52,300.0),(14.25,320.0),(9.12,340.0),(5.13,360.0),(2.28,380.0),(2.27,400.0)},
{(400.0,999.9,999.9)}, N, Y, Y;
19-24,NERCID123,
{(228.01,0.0),(228.01,40.0),(184.69,60.0),(164.74,80.0),(145.93,100.0),(128.26,120.0),(111.73,140.0)
,(96.33,160.0),(82.08,180.0),(68.97,200.0),(57.00,220.0),(46.17,240.0),(36.48,260.0),(27.93,280.0),(2
0.52,300.0),(14.25,320.0),(9.12,340.0),(5.13,360.0),(2.28,380.0),(2.27,400.0)}, {(400.0,999.9,999.9)},
N, Y, Y;
*
*
PM, RTEM, 20010405, PARTICIPANT, USER, , NORMAL;
*
INJECTION, INJECTION1, TIEPOINT2, 0.0, 999.9, SUBMIT, NORMAL;
1-18,
NERCID456,{(31.15,0.0),(31.15,100.1),(65.02,150.2),(112.42,200.2),(173.34,250.3),(247.79,300.3),(
335.76,350.4),(437.26,400.4),(552.29,450.4),(680.85,500.5),(822.93,550.5),(978.55,600.6),(1147.68,
650.6),(1330.35,700.7),(1526.54,750.8),(1736.26,800.8),(1959.50,850.9),(2196.28,900.9),(2446.58,9
51.0),(2710.40,1001.0)}, {(1001.0,999.9,999.9)}, N, Y, Y;
19-24,NERCID456,
{(31.15,0.0),(31.15,100.1),(65.02,150.2),(112.42,200.2),(173.34,250.3),(247.79,300.3),(335.76,350.4)
,(437.26,400.4),(552.29,450.4),(680.85,500.5),(822.93,550.5),(978.55,600.6),(1147.68,650.6),(1330.
35,700.7),(1526.54,750.8),(1736.26,800.8),(1959.50,850.9),(2196.28,900.9),(2446.58,951.0),(2710.4
0,1001.0)}, {(1001.0,999.9,999.9)}, N, Y, Y;
*
*
```

B.1.3 Physical Market Offers/Bids (RTEM) Sample – Standing

```
PM, RTEM, 20010404, PARTICIPANT, USER, , NORMAL;
*
GENERATOR, GEN1,  , 0.0, 50.0, SUBMIT, STANDING, ALL, 20021231;
1-18, ,{(10.30,0.0),(10.30,20.2),(18.02,30.2),(28.79,40.3),(42.61,50.4)},
{(26.2,40.0,40.0),(52.4,50.0,50.0)}, Y, Y, Y;
19-24,, {(10.30,0.0),(10.30,20.2),(18.02,30.2),(28.79,40.3),(42.61,50.4)},
```

```
{(26.2,40.0,40.0),(52.4,50.0,50.0)}, Y, Y, Y;
*
*
PM, RTEM, 20010404, PARTICIPANT, USER, , NORMAL;
*
LOAD, LOAD1,  , , 999.9, SUBMIT, STANDING, ALL, 20011231;
1-5,
,{(121.38,0.0),(121.38,4.2),(98.50,6.3),(87.97,8.4),(78.03,10.5),(68.70,12.6),(59.97,14.7),(51.85,16.8)
,(44.32,18.9),(37.40,21.0),(31.08,23.1),(25.36,25.2),(20.24,27.3),(15.73,29.4),(11.81,31.5),(8.50,33.6)
,(5.79,35.7),(3.68,37.8),(2.18,39.9),(2.17,42.0)}, {(22.0,7.5,7.5),(44.0,9.4,9.4)}, N, Y, Y;
22-24,,
{(120.93,0.0),(120.93,4.2),(98.14,6.3),(87.64,8.4),(77.74,10.5),(68.45,12.6),(59.75,14.7),(51.65,16.8),
(44.16,18.9),(37.26,21.0),(30.96,23.1),(25.26,25.2),(20.17,27.3),(15.67,29.4),(11.77,31.5),(8.47,33.6),
(5.77,35.7),(3.67,37.8),(2.17,39.9),(2.16,42.0)}, {(22.0,7.5,7.5),(44.0,9.4,9.4)}, N, Y, Y;
*
*
PM, RTEM, 20010404, PARTICIPANT, USER, , NORMAL;
*
OFFTAKE, OFFTAKE1, TIEPOINT1, , 999.9, SUBMIT, STANDING, ALL, 20011231;
1-18,
NERCID123,{(228.01,0.0),(228.01,40.0),(184.69,60.0),(164.74,80.0),(145.93,100.0),(128.26,120.0),(
111.73,140.0),(96.33,160.0),(82.08,180.0),(68.97,200.0),(57.00,220.0),(46.17,240.0),(36.48,260.0),(2
7.93,280.0),(20.52,300.0),(14.25,320.0),(9.12,340.0),(5.13,360.0),(2.28,380.0),(2.27,400.0)},
{(400.0,999.9,999.9)}, N, Y, Y;
19-24,NERCID123,
{(228.01,0.0),(228.01,40.0),(184.69,60.0),(164.74,80.0),(145.93,100.0),(128.26,120.0),(111.73,140.0)
,(96.33,160.0),(82.08,180.0),(68.97,200.0),(57.00,220.0),(46.17,240.0),(36.48,260.0),(27.93,280.0),(2
0.52,300.0),(14.25,320.0),(9.12,340.0),(5.13,360.0),(2.28,380.0),(2.27,400.0)}, {(400.0,999.9,999.9)},
N, Y, Y;
*
*
PM, RTEM, 20010404, PARTICIPANT, USER, , NORMAL;
*
INJECTION, INJECTION1, TIEPOINT2, 0.0, 999.9, SUBMIT, STANDING, ALL, 20021231;
1-18,
NERCID456,{(31.15,0.0),(31.15,100.1),(65.02,150.2),(112.42,200.2),(173.34,250.3),(247.79,300.3),(
335.76,350.4),(437.26,400.4),(552.29,450.4),(680.85,500.5),(822.93,550.5),(978.55,600.6),(1147.68,
650.6),(1330.35,700.7),(1526.54,750.8),(1736.26,800.8),(1959.50,850.9),(2196.28,900.9),(2446.58,9
51.0),(2710.40,1001.0)}, {(1001.0,999.9,999.9)}, N, Y, Y;
19-24,NERCID456,
{(31.15,0.0),(31.15,100.1),(65.02,150.2),(112.42,200.2),(173.34,250.3),(247.79,300.3),(335.76,350.4)
,(437.26,400.4),(552.29,450.4),(680.85,500.5),(822.93,550.5),(978.55,600.6),(1147.68,650.6),(1330.
35,700.7),(1526.54,750.8),(1736.26,800.8),(1959.50,850.9),(2196.28,900.9),(2446.58,951.0),(2710.4
0,1001.0)}, {(1001.0,999.9,999.9)}, N, Y, Y;
*
*
```

B.2 Operating Reserve Offers/Bids

B.2.1 Operating Reserve Offers/Bids – Submission Validation Rules

Purpose: This is used to send Operating Reserve Offer/Bid data to IESO. It can also be used to view the data.

Users: All ancillary service data loading use the same format. There are 3 types of Reserve supported and they are 10-minute Non-Spin Reserve, 10-minute Spin Reserve and 30-minute Reserve.

Note: Any offer to provide Operating Reserve is only valid if a corresponding Energy Offer or Bid exists for the same Resource ID and, in case of offers external to Ontario (i.e. 'INJECTIONS' or 'OFFTAKES'), also for the same <TIE_POINT>.

File Header Information:
<APPLICATION_TYPE>,<MARKET_TYPE>,<DELIVERY_DATE>,<PARTICPANT_ID>,<USER_ID>,
<VERSION_NO>,<MODE>;
---
*
Bid Header Information:
<BID_TYPE>,<RESOURCE_ID>,[<TIEPOINT_ID>],<RESERVE_CLASS>,<CANCEL_FLAG>,<STANDING_BID_FLAG>,[<STANDING_DAY_TYPE>],[<EXPIRY_DATE>];

Bid Body Information:
<HOUR_RANGE>,{(<PRICE>,<QUANTITY>)},<RESERVE_LOADING_POINT>,[<REASON_FOR_CHANGE>],[<OTHER_REASONS>];
---
*

\\Field Formats and Validation Rules:

Template Field	Field Format and Validation Rules
<APPLICATION_TYPE>	'2-char' will be 'PM' for Physical Market.
<DELIVERY_DATE>	'8-char' will be the dispatch date in the format of 'YYYYMMDD'. When submitting Standing Data (i.e. STANDING_BID_FLAG = 'STANDING'), this field should be set to today's date. Note, however, that this field is ignored for the purpose of Standing Data entry validation. The date used for Standing Data entry validation is always (today's date +2).
<PARTICIPANT_ID>	'12-char' will be the name of participant. Must be a valid participant in the Master File.
<USER_ID>	'12-char' will be the name of user. Must be a valid user in the Master File associated to the Participant.
<VERSION_NO>	'6-char' will be the version of template and will be validated against the current version of the MOS Software. Currently not used.
<MODE>	'6-char' will indicate if the template is used only for testing, or if it has real-time data. The valid values for <MODE> are 'NORMAL' and 'TEST'.
<BID_TYPE>	'10-char' valid values are GENERATOR', 'DISPLOAD', 'OFFTAKE', 'INJECTION'.

Template Field	Field Format and Validation Rules
<RESOURCE_ID>	'32-char' will be name of resource. Must be a valid resource in the Master File associated with the participant. If <BID_TYPE> is 'INJECTION', must be any valid Constrained Scheduling Point (CSP) SOURCE. If <BID_TYPE> is 'OFFTAKE', must be any valid CSP SINK.
<TIEPOINT_ID>	'32-char' If <BID_TYPE> is 'OFFTAKE' or 'INJECTION' then a valid Tiepoint ID associated with the CSP must be entered. Otherwise, NULL (nothing) must be entered.
<RESERVE_CLASS>	'13-char' valid values are 'SPIN10_MIN', 'NONSPIN10_MIN', '30_MIN'. 'SPIN10_MIN' is only valid for a <BID_TYPE> of 'GENERATOR' or 'DISPLOAD'.
<CANCEL_FLAG>	'6-char' Valid values are 'CANCEL' or 'SUBMIT'. If <CANCEL_FLAG> is set to 'CANCEL' then only the delivery hour or hour range is required IF that hour or hour range is within the Initial or Unrestricted market window. If the hour, or any portion of the hour range, is within the Restricted or Mandatory window, or the bid/offer is subject to IESO operator approval due to DACP, the FULL bid structure must be submitted. DACP validation details are described in the Market Participant Graphical User Interface User's Guide.
<STANDING_BID_FLAG>	'10-char' Words 'STANDING' or 'NORMAL' are valid.
<STANDING_DAY_TYPE>	'3-char' will be from 'MON' to 'SUN' OR 'ALL'. Used only when <STANDING_BID_FLAG> is set to 'STANDING'.
<EXPIRY_DATE>	'8-char' Optional field in the format of 'YYYYMMDD'. Only used when the <STANDING_BID_FLAG> is set to 'STANDING'.
<HOUR_RANGE>	'5-char' will be in the range of 1-24. Indicates an hour, or range of hours. For example, HOUR 2 means hour ending 2.
<PRICE>	'8-char', number format = $±XXXX.XX Prices will be non-decreasing for both OFFERS and BIDS Minimum MCP ≤ Prices ≤ Maximum MCP Minimum two price/quantity pairs Maximum five price/quantity pairs Price of first pair must equal price of second pair Up to 24 sets, one for each hour of Market Data Number of Prices = Number of Quantities
<QUANTITY>	'6-char ', number format XXXX.X MW. Must be >0 and <= Max Generator Capacity Minimum two price/quantity pairs Maximum five price/quantity pairs Quantity of first pair must equal zero Quantities will be non-negative Quantities are cumulative Quantities must increase monotonically Up to 24 sets, one for each hour of market data

Template Field	Field Format and Validation Rules
<RESERVE_LOADING_POINT>	'7-char' number format XXXXX.X MW Will be minimum generation at which the unit can provide maximum reserve. If the <BID_TYPE> is 'DISPLOAD', 'OFFTAKE' or 'INJECTION' then a value of 0.0 must be entered. If the <BID_TYPE> is 'GENERATOR' then a value greater than 0.0 must be entered.
<REASON_FOR_CHANGE>	'10-char' should be one of the predefined list of reasons or OTHER. It is a mandatory field if the hour falls in the Restricted Window and change is > 10% or the hour falls in the Mandatory Window. This field is also required for DACP bids/offers that are subject to IESO operator approval. DACP validation details are described in the Market Participant Graphical User Interface User's Guide. For all other cases this will be an optional field.
<OTHER_REASON>	'128-char' If <REASON_FOR_CHANGE> is specified as 'OTHER' then there must be a <OTHER_REASON> entered. For all other cases this field must not be used.

B.2.2 Operating Reserve Offers/Bids Sample – Normal

```
PM, OPER_RESV, 20010419, PARTICIPANT, USER, , NORMAL;
*
GENERATOR, GENERATOR1,  , NONSPIN10_MIN, SUBMIT, NORMAL;
1-24, {(1.41,0.0),(1.41,30.2),(2.23,40.3)}, 0.0;
*
*
PM, OPER_RESV, 20010419, PARTICIPANT, USER, , NORMAL;
*
GENERATOR, GENERATOR1,  , SPIN10_MIN, SUBMIT, NORMAL;
1-24, {(1.82,0.0),(1.82,30.2),(3.01,40.3)}, 0.1;
*
*
PM, OPER_RESV, 20010419, PARTICIPANT, USER, , NORMAL;
*
GENERATOR, GENERATOR1,  , 30_MIN, SUBMIT, NORMAL;
1-24, {(0.92,0.0),(0.92,30.2),(1.43,40.3)}, 0.0;
*
*
PM, OPER_RESV, 20010419, PARTICIPANT, USER, , NORMAL;
*
DISPLOAD, LOAD1,  , NONSPIN10_MIN, SUBMIT, NORMAL;
1-5, {(0.17,0.0),(0.17,8.4),(0.45,14.7),(5.77,37.8),(7.26,42.0)}, 0.0;
22-23, {(0.18,0.0),(0.18,8.4),(0.49,14.7),(5.89,37.8),(7.35,42.0)}, 0.0;
24, {(20.00,0.0),(20.00,6.4),(30.00,9.5)}, 0.0;
*
*
PM, OPER_RESV, 20010419, PARTICIPANT, USER, , NORMAL;
*
OFFTAKE, OFFTAKE1, TIEPOINT1, NONSPIN10_MIN, SUBMIT, NORMAL;
1-23, {(0.20,0.0),(0.20,80.0),(0.81,140.0),(11.13,360.0),(13.92,400.0)}, 0.0;
24, {(20.00,0.0),(20.00,6.4),(30.00,9.5)}, 0.0;
*
*
PM, OPER_RESV, 20010419, PARTICIPANT, USER, , NORMAL;
```

```
*
INJECTION, INJECTION1, TIEPOINT2, NONSPIN10_MIN, SUBMIT, NORMAL;
1-23, {(20.70,0.0),(20.70,300.3),(54.04,500.5),(88.21,650.6),(208.75,1001.0)}, 0.0;
24, {(20.00,0.0),(20.00,6.4),(30.00,9.5)}, 0.0;
*
*
```

B.2.3 Operating Reserve Offers/Bids Sample – Standing

```
PM, OPER_RESV, 20010419, PARTICIPANT, USER, , NORMAL;
*
GENERATOR, GENERATOR1,  , NONSPIN10_MIN, SUBMIT, STANDING, ALL, 20021231;
2-3, {(1.41,0.0),(1.41,30.2),(2.23,40.3)}, 0.0;
5-8, {(1.41,0.0),(1.41,30.2),(2.23,40.3)}, 0.0;
10, {(1.41,0.0),(1.41,30.2),(2.23,40.3)}, 0.0;
12-13, {(1.41,0.0),(1.41,30.2),(2.23,40.3)}, 0.0;
15-18, {(1.41,0.0),(1.41,30.2),(2.23,40.3)}, 0.0;
20-24, {(1.41,0.0),(1.41,30.2),(2.23,40.3)}, 0.0;
*
*
PM, OPER_RESV, 20010419, PARTICIPANT, USER, , NORMAL;
*
GENERATOR, GENERATOR1,  , SPIN10_MIN, SUBMIT, STANDING, ALL, 20021231;
2-3, {(1.82,0.0),(1.82,30.2),(3.01,40.3)}, 0.1;
5-8, {(1.82,0.0),(1.82,30.2),(3.01,40.3)}, 0.1;
10, {(1.82,0.0),(1.82,30.2),(3.01,40.3)}, 0.1;
12-13, {(1.82,0.0),(1.82,30.2),(3.01,40.3)}, 0.1;
15-18, {(1.82,0.0),(1.82,30.2),(3.01,40.3)}, 0.1;
20-24, {(1.82,0.0),(1.82,30.2),(3.01,40.3)}, 0.1;
*
*
PM, OPER_RESV, 20010419, PARTICIPANT, USER, , NORMAL;
*
GENERATOR, GENERATOR1,  , 30_MIN, SUBMIT, STANDING, ALL, 20021231;
2-3, {(0.92,0.0),(0.92,30.2),(1.43,40.3)}, 0.0;
5-8, {(0.92,0.0),(0.92,30.2),(1.43,40.3)}, 0.0;
10, {(0.92,0.0),(0.92,30.2),(1.43,40.3)}, 0.0;
12-13, {(0.92,0.0),(0.92,30.2),(1.43,40.3)}, 0.0;
15-18, {(0.92,0.0),(0.92,30.2),(1.43,40.3)}, 0.0;
20-24, {(0.92,0.0),(0.92,30.2),(1.43,40.3)}, 0.0;
*
*
PM, OPER_RESV, 20010419, PARTICIPANT, USER, , NORMAL;
*
DISPLOAD, LOAD1,  , NONSPIN10_MIN, SUBMIT, STANDING, ALL, 20011231;
1-4, {(0.17,0.0),(0.17,8.4),(0.45,14.7),(5.77,37.8),(7.26,42.0)}, 0.0;
22-24, {(0.18,0.0),(0.18,8.4),(0.49,14.7),(5.89,37.8),(7.35,42.0)}, 0.0;
*
*
PM, OPER_RESV, 20010419, PARTICIPANT, USER, , NORMAL;
*
OFFTAKE, OFFTAKE1, TIEPOINT1, NONSPIN10_MIN, SUBMIT, STANDING, ALL, 20011231;
1-24, {(0.20,0.0),(0.20,80.0),(0.81,140.0),(11.13,360.0),(13.92,400.0)}, 0.0;
*
*
PM, OPER_RESV, 20010419, PARTICIPANT, USER, , NORMAL;
```

```
*
INJECTION, INJECTION1, TIEPOINT2, NONSPIN10_MIN, SUBMIT, STANDING, ALL, 20021231;
1-24, {(20.70,0.0),(20.70,300.3),(54.04,500.5),(88.21,650.6),(208.75,1001.0)}, 0.0;
*
*
```

B.3 Physical Market Schedules

B.3.1 Physical Market Schedules – Submission Validation Rules

Purpose: This is used to specify the schedules for various resources. This can also be used to view the schedule data.

Users: This is used by Market Participants to send their schedule data to the IESO.

File Header Information:
<APPLICATION_TYPE>,<MARKET_TYPE>,<DELIVERY_DATE>,<PARTICPANT_ID>,<USER_ID>
,<VERSION_NO>,<MODE>;
---
*
Bid Header Information:
<SCHEDULE_TYPE>,<RESOURCE_ID>,<CANCEL_FLAG>,<STANDING_BID_FLAG>,
[<STANDING_DAY_TYPE>],[<EXPIRY_DATE>];

Bid Body Information:
<HOUR_RANGE>, <ZERO_PRICE>, <QUANTITY>;
---
*

\\Field Formats and Validation Rules:

Template Field	Field Format and Validation Rules
<APPLICATION_TYPE>	'2-char' will be 'PM' for Physical Market.
<MARKET_TYPE>	'10-char' will be 'SCHEDULE'.
<DELIVERY_DATE>	'8-char' will be the dispatch date in the format of 'YYYYMMDD'. When submitting Standing Data (i.e. STANDING_BID_FLAG = 'STANDING'), this field should be set to today's date. Note, however, that this field is ignored for the purpose of Standing Data entry validation. The date used for Standing Data entry validation is always (today's date +2).
<PARTICIPANT_ID>	'12-char' will be the name of participant. Must be a valid participant in the Master File.
<USER_ID>	'12-char' will be the name of user. Must be a valid user in the Master File associated to the Participant.
<VERSION_NO>	'6-char' will be the version of template and will be validated against the current version of the MOS Software. Currently not used.
<MODE>	'6-char' will indicate if the template is used only for testing or if it has real-time data. The valid values for <MODE> are 'NORMAL' and 'TEST'.
<SCHEDULE_TYPE>	'10-char' must be 'SELF', 'INTGEN', or 'NONDLOAD'.
<RESOURCE_ID>	'32-char' will be name of resource. Must be a valid resource in the Master File, associated with the Participant and User.
<CANCEL_FLAG>	'6-char' Valid values are 'CANCEL' or 'SUBMIT'. If <CANCEL_FLAG> is set to 'CANCEL' then only the delivery hour or hour range is required IF that hour range is within the Initial or Unrestricted market window. If the hour or any portion of the hour range is within the Restricted or Mandatory window, the FULL bid structure must be submitted.
<STANDING_BID_FLAG>	'10-char' Valid values are 'STANDING' or 'NORMAL'.
<STANDING_DAY_TYPE>	'3-char' will be from 'MON' to 'SUN' OR 'ALL' Used only when <STANDING_BID_FLAG> is set to 'STANDING'.

Template Field	Field Format and Validation Rules
<EXPIRY_DATE>	'8-char' Optional field in the format of 'YYYYMMDD'. Only used when the <STANDING_BID_FLAG> is set to 'STANDING'.
<HOUR_RANGE>	'5-char' will be in the range of 1-24. Indicates an hour, or a range of hours. For example, HOUR 2, means hour ending 2.
<ZERO_PRICE>	'8-char', number format ±$XXXX.XX. Will be the price at which a generator will reduce output for the resource to 0. If not required, 0 must be entered. Quantity entered must be greater than or equal to the Minimum Market Clearing Price and less than or equal to the Maximum Market Clearing Price of Energy.
<QUANTITY>	'6-char', number format XXXX.X. Will be the quantity allocated for the hour or range of hours.

B.3.2 Physical Market Schedules Sample – Normal

```
PM, SCHEDULE, 20010509, PARTICIPANT, USER, , NORMAL;
*
SELF, RESOURCE, SUBMIT, NORMAL;
1-15, 0.00, 8.4;
16-24, -10.50, 8.4;
*
*
```

B.3.3 Physical Market Schedules Sample – Standing

```
PM, SCHEDULE, 20010510, PARTICIPANT, USER, , NORMAL;
*
SELF, RESOURCE, SUBMIT, STANDING, ALL, 20041231;
1-15, 0.00, 8.4;
16-24, -10.50, 8.4;
*
*
```

B.4 Bilateral Contracts

B.4.1 Bilateral Contracts – Submission Validation Rules

Purpose: This is used to specify hourly amount exchanged between parties to the bilateral contract. This can also be used to view data.

Users: The Market Participant ('Seller') in the bilateral contract.

File Header Information:
<APPLICATION_TYPE>,<MARKET_TYPE>,<DELIVERY_DATE>,<PARTICIPANT_ID>,<USER_ID>,<VERSION_NO>,<MODE>;
---
*
Bid Header Information:
<PARTICIPANT_SELLER>,<PARTICIPANT_BUYER>,<RESOURCE_ID>,<PBC_PERCENT_FLAG>, <CANCEL_FLAG>, <STANDING_BID_FLAG>, [<STANDING_DAY_TYPE>, <EXPIRY_DATE>];

Bid Body Information:
<HOUR_RANGE>,<QUANTITY>,<OPERATING_RESERVE_MARKET_CREDIT>,<CAPACITY_RESERVE_CREDIT>,<CONGESTION_MANAGEMENT_CREDIT>,<OPERATING_RESERVE_DEBIT>,<CAPACITY_RESERVE_DEBIT>,<NET_ENERGY_MARKET_SETTLEMENT_CREDIT>;
---
*

\\Field Formats and Validation Rules:

Template Field	Field Format and Validation Rules
<APPLICATION_TYPE>	'2-char' will be 'PM' for Physical Market.
<MARKET_TYPE>	'10-char ' will be 'BILATERAL'
<DELIVERY_DATE>	'8-char' will be the dispatch date in the format of 'YYYYMMDD'. When submitting Standing Data (i.e. STANDING_BID_FLAG = 'STANDING'), this field should be set to today's date. Note, however, that this field is ignored for the purpose of Standing Data entry validation. The date used for Standing Data entry validation is always (today's date +2).
<PARTICIPANT_ID>	12-char' will be the name of the seller participant. Must be a valid participant in the Master File.
<USER_ID>	'12-char' will be the name of user. Must be a valid user in the Master File associated to the Participant.
<VERSION_NO>	'6-char' will be the version of template and will be validated against the current version of the MOS Software. Currently not used.
<MODE>	'6-char' will indicate if the template is used only for testing, or if it has real-time data. The valid values for <MODE> are 'NORMAL' and 'TEST'.
<PARTICIPANT_SELLER>	'12-char', will be the Short Name of the selling participant. This must be the same as the participant submitting the Bilateral Contract (i.e. the <PARTICIPANT_ID>).
<PARTICIPANT_BUYER>	'12-char', will be the Short Name of the buying participant. This must be a valid participant ID in the Master File.
<RESOURCE_ID>	'32-char'. If <PBC_PERCENT_FLAG> is 'Y' then the Resource ID must belong to either the Seller Participant or Buyer Participant.

Template Field	Field Format and Validation Rules
	If <PBC_PERCENT_FLAG> is 'N' then the Resource ID can be any Ontario Resource ID or Market Scheduling Point (MSP). The MSP is known as the Tiepoint ID in this document.
<PBC_PERCENT_FLAG>	'1-char', can have values as 'Y'/'N'. This is used for determining the allocation of the PBC MWh quantity.
<CANCEL_FLAG>	'6-char' Valid values are 'CANCEL' or 'SUBMIT'. If <CANCEL_FLAG> is set to 'CANCEL' then only the delivery hour or hour range is required.
<STANDING_BID_FLAG>	'10-char' Words 'STANDING' or 'NORMAL' are valid.
<STANDING_DAY_TYPE>	'3-char' will be from 'MON' to 'SUN' OR 'ALL'. Used only when <STANDING_BID_FLAG> is set to 'STANDING'.
<EXPIRY_DATE>	'8-char' optional field in the format of 'YYYYMMDD'. Used only when <STANDING_BID_FLAG> is set to 'STANDING'.
<HOUR_RANGE>	'5-char' will be in the range of 1-24. Indicates an hour, or range of hours. For example, HOUR 2 means hour ending 2.
<QUANTITY>	'6-char ', number format XXXX.X . Will be the quantity allocated for the hour. Must be greater than 0.0 MWh.
<OPERATING_RESERVE_ MARKET_CREDIT>	'1-char' can have values as 'Y'/'N'. This is one of the uplift charges.
<CAPACITY_RESERVE_CREDIT>	'1-char' can have values as 'Y'/'N'. This is one of the uplift charges.
<CONGESTION_MANAGEMENT_ CREDIT>	'1-char' can have values as 'Y'/'N'. This is one of the uplift charges.
<OPERATING_RESERVE_DEBIT>	'1-char' can have values as 'Y'/'N'. This is one of the uplift charges.
<CAPACITY_RESERVE_DEBIT>	'1-char' can have values as 'Y'/'N'. This is one of the uplift charges.
<NET_ENERGY_MARKET_SETTL EMENT_CREDIT>	'1-char' can have values as 'Y'/'N'. This is one of the uplift charges.

B.4.2 Bilateral Contracts Sample – Normal

```
PM, BILATERAL, 20010314, PARTICIPANT_ID, USER_ID, , NORMAL;
*
PARTICIPANT_SELLER, PARTICIPANT_BUYER, RESOURCE_ID, N, SUBMIT, NORMAL;
1, 10.5, N, N, N, N, N, N;
2, 10.5, N, Y, N, N, N, N;
3, 10.5, N, N, Y, N, Y, Y;
4, 10.5, N, N, N, N, N, N;
5, 10.5, Y, Y, N, Y, N, N;
6, 10.5, N, N, N, N, N, N;
7, 10.5, N, N, N, N, N, Y;
8, 10.5, N, Y, N, N, Y, N;
9, 10.5, Y, N, N, N, N, N;
10, 10.5, N, N, N, N, N, N;
11, 10.5, N, N, N, N, N, Y;
12, 10.5, N, Y, N, N, N, N;
13, 10.5, N, N, N, N, Y, N;
```

```
14, 10.5, N, N, N, Y, N, N;
15, 10.5, Y, N, N, Y, N, N;
16, 10.5, N, N, Y, N, N, N;
17, 10.5, N, N, N, N, N, N;
18, 10.5, N, N, Y, N, N, N;
19, 10.5, Y, Y, N, N, Y, N;
20, 10.5, N, N, Y, N, N, N;
21, 10.5, N, N, N, N, N, N;
22, 10.5, N, N, N, Y, N, N;
23, 10.5, N, N, N, N, N, N;
24, 10.5, N, Y, Y, N, Y, Y;
*
*
```

B.4.3 Bilateral Contracts Sample – Standing

```
PM, BILATERAL, 20010313, PARTICIPANT_ID, USER_ID, , NORMAL;
*
PARTICIPANT_SELLER, PARTICIPANT_BUYER, RESOURCE_ID, N, SUBMIT, STANDING, ALL, ;
1, 10.5, N, N, N, N, N, N;
2, 10.5, N, Y, N, N, N, N;
3, 10.5, N, N, Y, N, Y, Y;
4, 10.5, N, N, N, N, N, N;
5, 10.5, Y, Y, N, Y, N, N;
6, 10.5, N, N, N, N, N, N;
7, 10.5, N, N, N, N, N, Y;
8, 10.5, N, Y, N, N, Y, N;
9, 10.5, Y, N, N, N, N, N;
10, 10.5, N, N, N, N, N, N;
11, 10.5, N, N, N, N, N, Y;
12, 10.5, N, Y, N, N, N, N;
13, 10.5, N, N, N, N, Y, N;
14, 10.5, N, N, N, Y, N, N;
15, 10.5, Y, N, N, Y, N, N;
16, 10.5, N, N, Y, N, N, N;
17, 10.5, N, N, N, N, N, N;
18, 10.5, N, N, Y, N, N, N;
19, 10.5, Y, Y, N, N, Y, N;
20, 10.5, N, N, Y, N, N, N;
21, 10.5, N, N, N, N, N, N;
22, 10.5, N, N, N, Y, N, N;
23, 10.5, N, N, N, N, N, N;
24, 10.5, N, Y, Y, N, Y, Y;
*
*
```

- End of Section -

References

Document Name	Document ID
Java 2 Runtime Environment	Non-*IESO* (http://www.oracle.com/technetwork/java/index.html)
Market Manual 1: Market Entry, Maintenance & Exit; Part 1.3: Identity Management Operations Guide	IMP_GDE_0088
Market Manual 6, Participant Technical Reference Manual, Section 2, Participant Workstation Network and Security	IMO_MAN_0024
IESO Developer's Toolkit (IDK), Implementation Manual	IMO_MAN_0023

- End of Section -

- End of Document-